



INSECT ECONOMY AND MARKETING:

How much and in
what way could
insects be shown
in packaging?

SAARA-MARIA KAUPPI

Master's Thesis
Aalto University
School of Arts, Design and Architecture
Department of Design
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ACKNOWLEDGEMENTS

With this thesis process, I had an amazing opportunity to engage myself with a topic that is rather new in Finland and has the full potential to be helpful for the whole insect industry. In the beginning of the year 2016, I moved from Helsinki to Seinäjoki to concentrate on this thesis. I was lucky to be part of a group of students from Helsinki University in Seinäjoki, who were also working with edible insects and starting their own business. We lived together, grew edible insects in our kitchen and discussed about insects every day. This made it easier for me to understand insects and think about them as part of our food chain. I am grateful to University Consortium of Seinäjoki for study facilities and encouragement that helped me along the way. When planning this research, the outcome of this thesis was not in sight. One of the major struggles in this thesis process was to trust in the process itself. Working with students and their lecturer at Lahti Institute of Design made the outcome even more interesting. I was very pleased about the results and the attitude students showed during this process. They were enthusiastic to be part of this research and introduced their packaging mock-ups with pride. As well as contributing to this research, they gained important material for their portfolios. I was also happily surprised that this topic gained media attention from YLE and Ilkka. Edible insects interest people despite the fact they are still perceived as strange. People are aware of their ecological benefits and have expressed interest in tasting them. All kinds of media coverage is good for the public discussion, and when the idea is planted in the heads of many, entomophagy will spread and gain a new audience, and possibly become mainstream in the future.

ABSTRACT

Agriculture, especially meat production, has a significant impact on the environment. In the future, the challenges are the growing population and its sustainable food production. In 2013, United Nations' Agriculture and Food Organisation published a report that suggests entomophagy – the eating of insects – has the potential to become one of the most sustainable protein sources in the future. Currently, approximately two billion people eat insects as part of their daily diet, but for us Westerners, insect eating feels unusual. However, the existing trend of healthy diet in the West can facilitate the adoption of insect products. Insect products are already available in foreign markets and when the EU legal restrictions are removed, the markets will open in Finland. The aim of this study is to find ways to market insect products to Western – especially Finnish – consumers, through packaging design.

This study is based on a literature analysis and packaging test for consumer behaviour. The literature analysis explains the reasons for entomophagy, origins of disgust reactions, as well as the basis for packaging design and consumer behaviour. The literature indicates that Western consumers most likely adopt insect eating if the insects are served in a processed form, such as powder, or used as an additional ingredient in familiar foods. Currently, one of the most popular insect products is a protein bar. Therefore, its packaging was selected as the test product.

The question of whether images of insects should be shown in packaging is answered in this thesis. The results of the consumer behaviour test indicate that impressions on insect products vary between consumers, for example, women and men scored differently. Graphic design elements such as colour and typography had an impact on respondents' selections and in some cases colour had an even bigger role than the insect. It is important for the future research to recognise that insects as food ingredients can be illustrated in multiple ways. The results of this study show that abstract representations of insects generally cause less repulsion than realistic images.

The packaging test has been made in collaboration with second-year packaging and branding students at Lahti Institute of Design. The findings of this study can have strategic relevance for brand managers targeting prospective consumers. This thesis is also useful for packaging designers who design new insect product packaging for Western and especially Finnish markets.

Keywords: packaging design, entomophagy, edible insects, sustainability, consumer behaviour

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Master's thesis by
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Helsinki, 2016

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1

INTRODUCTION

1.1. WHY EAT INSECTS?

The global population is growing rapidly. According to FAO, the population will reach over 9 billion by 2050. The big question in the near future is food security, how to feed the growing population and provide enough food for all. FAO has suggested insects as one solution to the global food crisis. There are many advantages to insects as a protein source, such as their high feed-to-meat conversion rate and their low water consumption. The only thing that prevents people eating insects around the world today is our Western perception of insects being unsuitable for food. (van Huis et al., 2013)

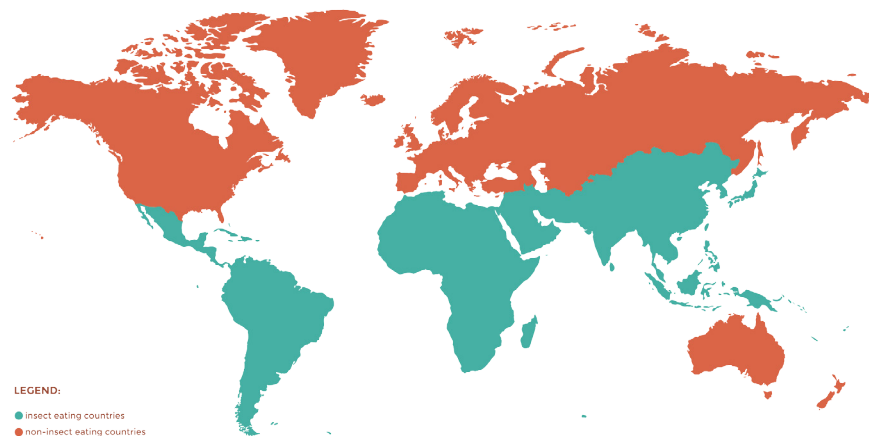


Image 1. East-West dichotomy. East described as blue and includes the countries that practise insect eating. West is illustrated as red, where insect eating is not widely spread activity.

WHAT IS ENTOMOPHAGY?

Entomophagy – insect eating – has been practised since Palaeolithic times, and today one out of four people worldwide eat insects; the only exception is the Western countries. Some studies show that the attitude towards insects changed after the rise of agriculture in the West and entomophagy started to decline. Insects were no longer seen as part of daily nutrition but more like pests that one needs to get rid of. At the moment, entomophagy is still practised in many countries around the world, predominantly in parts of Asia, Africa, Australia and Latin America. It is part of various cultural cuisines and supplements the daily diets of two billion people. (van Huis et al., 2013)

Currently insects play a role as novelty food in Western countries. Insect eating has captured media attention and there is an emerging trend of insect tasting, luxury brands adding extra flavours of insects to their products and small businesses emerging making, for example, insect protein bars and insect flour. Entomophagy is slowly becoming normalised also in the West as people travel more, are more open to new experiences and therefore want to try out new sorts of food. Image 1

SCARCITY OF AGRICULTURAL LAND AND GROWING POPULATION

In the year 2050, the global population is predicted to be 9 billion. Having 2 billion more mouths to feed than now creates massive challenges in food production. According to FAO, agriculture is currently using 70% of cultivated land, but it is estimated that using that alone would not be enough to feed the whole population. In order to feed the whole population, the amount of agricultural land has to be doubled. New ideas for global food security need to be taken seriously. Yet there is not much more land that could be used, without utilising the rest of the natural rainforests, natural forests and recreational land. Cutting down forests for food is highly questionable since it is a great risk for global biodiversity, and for example, rainforests have a great ability to absorb carbon, helping to mitigate climate change (WWF 2008). This means that there is a need to look at the challenges from a new perspective in order to find innovative solutions for food security. (van Huis et al., 2013)

The other problem in population growth is growing middleclass. FAO's studies show that usually when people get wealthier they would like to include more meat to their diets (van Huis 2013). Research reveals that meat consumption per capita would rise from 41kg to 52kg by 2050, and from 30kg to 44 kg in developing countries (FAO 2009). The future of global agriculture looks alarming if these projections are accurate. From an agricultural perspective, this is problematic because meat production uses a lot of land, water, crops, energy from fossil fuels and human effort, as the animals need daily care (van Huis et al., 2013 [Pimentel et al., 2004]). Livestock now consume more edible protein than they actually produce, and meat production is one of the biggest

emitters of CO₂, therefore accelerating global warming (van Huis 2013 [De Foliart, 1995; Ramos-Elorduy, 2008]).

AGRICULTURAL AND ECONOMIC ADVANTAGES OF INSECTS

FAO (van Huis et al., 2013) suggests that one of the solutions for global food security could be insects. Insects are small, coldblooded – they do not need energy to maintain their body temperature – and their food conversion is higher than any traditional meats: they use their nutrition efficiently to grow protein. These facts support the possibility of insects being part of the solution. From this point of view, growing insects would be beneficial in economic terms for any farmer. Insects can utilise sources of food that are not suitable for cattle or humans and therefore put currently unused resources in productive use. The conversion rate is high for insects: by feeding 10kg of feed to cows, one would get 1kg of cow meat, compared with 3kg of pork, 5kg of chicken, but 9kg of locust meat (Dicke, 2010). As insects are coldblooded, they are able to use the feed to grow themselves, not needing energy for keeping up the body temperature and because they are small, they can gain their body weight quickly and they need less space than traditional livestock. (van Huis et al., 2013) Insects' small size would also enable home growing, and the facilities could be vertically stacked to save further space. For home growing, insects provide an ideal source for competitive business solutions and design concepts that could make a breakthrough in the near future.

HEALTHY EXOTIC FOOD

There are over 1900 edible insect species from a total of over 30 million insect species (van Huis et al., 2013). Insects could provide an interesting journey to new cuisines if all the edible insect species were utilised. As people travel more these days, insects are an exotic replacement for traditional meats. Most of the insects eaten in the world are cooked as part of interesting preparations that make them a genuine competitor to other foods, and often a more attractive option. Media in the West often describe insect eating as a necessity, only eaten during famine, but in the parts of the world that insects are eaten, these insects are usually eaten by choice, not necessity. (Dicke, 2010)

The quality of insect meat is comparable with traditional meats. In many levels the meat is even better. Insects are particularly high in protein with levels similar to beef and milk. Insects contain essential amino acids that can replace other protein sources such as meat or soy. The amount of carbohydrates is low, deriving mainly from the chitin that constitutes the exoskeleton, and insect fat contains more fatty acids than other animal fats. (Mlcek, J., Rop, O., Borkovcova, M., Bednarova, M. 2014)

Also, insects are genetically distant to humans, so cross-species transmission of diseases such as swine fever is not likely to happen when eating insects. From an ethical point of view, insects lack sophisticated brains or high levels of

self-awareness, as opposed to animals such as pigs that are, according to much research, as intelligent as a pet dog. There could be less remorse associated with eating insects, in this sense they might be a more humane food choice than cattle, lambs, chickens or pigs. (Dicke, M. 2010)



Image 2. Chocolate Cremeux with Toasted Crickets. Some entomophagy promoters have started to create Western delicacies from insects and share their recipes on the Internet.



Image 3. Fried silkworms.



Image 4. Tacos de Chapulines - Grasshopper Tacos are traditional Mexican food.

1.2. OBJECTIVES AND RESEARCH QUESTION

It is imperative to consider new solutions to our food security as the population grows on earth. Packaging, on the other hand, is the crucial point-of-sale interface between customers and the product. It can be challenging to convince people about entomophagy's benefits but I believe that appropriate packaging design can encourage in purchase decision. In order to contribute to insect protein bar markets through packaging design, several aspects of insects and insect products needed to be researched.

THE OBJECTIVES OF THIS THESIS

1. Get an overview of insect eating and its objections in the West. Understand the reasons of objections.
2. Test insect protein packaging concepts to see what visual elements produce willingness to purchase the product. Analyse the results through qualitative and quantitative research methods.
3. Reflect the literature analysis and test results: what should be taken into account in future insect protein packaging?

WITH THIS THESIS I ANSWER THE FOLLOWING RESEARCH QUESTIONS

- How does packaging affect the acceptance of insect food?
- What are the effects of images of insects on the packaging?
- What elements make an insect protein packaging desirable?
- What are the personal factors that affect the acceptance of insect food?

1.3. METHODOLOGIES

The test method is qualitative and quantitative consumer research. The instrument for conducting this research is survey. Qualitative consumer research is a method to discover what kind of insect protein bar is the most sellable and what visual elements in the packaging persuade people buy the product. Quantitative research broadens the analysis as it helps to cluster the respondents' basic information and see cohesion and divergence between the respondents.

2

WHY NOT EAT INSECTS?

2.1. WESTERN PERCEPTION ON INSECTS

In general the biggest obstacle for insect eating is our Western mindset. It is the yuck-effect that prevents us from eating edible insects. Western people are not used to eating insects as children; that aversion continues when growing up and is eventually passed on to the next generation (Rozin et al., 2008 [Rozin and Fallon, 1987]).

As agriculture developed in the West, people started to see insects as animals that eat crops and harm plants. Insects were animals that people wanted to get rid of, and we created various pesticides to keep them away from human food. As knowledge of bacteria and disease vectors increased, insects were also something that, for hygiene reasons, people did not want to have in their homes (Kellert, 1993). Today, insects are perceived as animals that do not belong in the human world, even though we could not live without them as they pollinate our crops, remove dung and are the start of the food chain. Changing our mindset and shifting our perception of insects from disgust to delicacy is a great challenge.

2.2. EMOTION CALLED DISGUST

The emotion called disgust elicits stomach turns, invokes characteristic facial expressions and is often more to do with imagination and presumptions than reality. Disgust appears in all cultures and is evolved during human history to help people avoid diseases and obey mutual norms in a community (Rozin et al., 2008).

There is a minority in the West that practices entomophagy. Most Western people simply refuse to eat insects because insects seem ‘disgusting’. In the West, insects are often associated with diseases and fermenting food. This is simply because throughout history people wanted to get rid of house insects, and when insects have been seen at home, they appeared because of bad hygiene, fermenting food or as a sign of death (van Huis et al., 2013).

2.2.1. WHAT TRIGGERS DISGUST

Disgust can be divided into core disgust and animal-nature disgust. The three core elicitors of disgust are food, animals, and body products. Core disgust can be thought of as the guardian of the mouth. Disgusting entities are treated differently, for example aversion to an offensive entity in the mouth is bigger than to the same entity on the skin. Holding an insect is easier than putting one in our mouth (Rozin et al., 2008 [Rozin et al 1995]). Evolution shaped human emotions to prevent us getting sick from products that are a health risk. This rejection system prevents people putting material things into the body that might be harmful for it. Core disgust is one of the four categories

of food rejection, the others being distaste, indicating that food is unsuitable for eating because of its taste properties; danger, indicating fear of food doing bodily harm; inappropriate, culturally-based rejection of food accelerated by ideational beliefs of the food origin. Insects fall into every category: for us they are pests, distasteful, dangerous and a culturally inappropriate food ingredient. (Rozin et al. 2008)

2.2.2. DISGUST AND CULTURES

Eating raw fish was disgusting for many people 40 years ago, but today sushi has gained a following and is a popular delicacy (Klayman 2016). Many other culture-specific foods have a similar history. Arthropods, like lobster and shrimp, were once considered a poor man’s food, but are now expensive delicacies in the West (Looy et al., 2014). Many cultures serve fermented food such as cheese in France and fermented fish in Sweden (Rozin et al. 2008). Finnish mämmi, a traditional Easter dessert, is something that foreigners view with suspicion.

All these dishes can be disgusting for people outside of the culture, but not for those who have been eating them since childhood. The key factors in getting to know new food are information and availability.



Image 5. Traditional Finnish Easter pudding Mämmi.

2.2.3. EMOTION VERSUS SENSE

Even if all the benefits of insects were acknowledged, eating is a very private act. The mouth is the guardian of the body and people are extremely conscious about what they want to put into their body. It is good to understand some basic “rules” of human behaviour patterns regarding disgust.

The understanding of contamination requires the notion of invisible entities

and cognitive skills of abstraction that seem to be absent among young children (Rozin et al., 2008 [Piaget & Inhelder, 1941/1974; Flavell, 1986; Rosen & Rozin, 1993]). However, children develop aversion to mud, dirt and mushy substances that resemble feces and can mark concerns towards cleanliness. A 3-year-old rejects waste matter but does not understand contamination (Rozin et al 2008 [Senn & Solnit, 1968]). Children are curious about insects at a very early stage and generally have no fear, because they are still learning about cultural signals of rejection. Parents have a great impact on what children are willing to put in to their mouths. The rule of thumb is that people only eat what their mother used to teach them to (Rozin et al., 2008). This can be seen easily in cultures that use edible insects as a normal cooking ingredient whereas in the West there is a great aversion to edible insects.

Disgust is a strong emotion that sometimes even defeats rationality. For example, a test among North Americans had chocolate fudge in a form of dog feces; the test group was reluctant to eat it (Rozin et al., 2018[Rozin, Millman, & Nemeroff, 1986]). This is called the law of similarity, that makes people treat substances that look disgusting the same way as they would treat disgusting entities. The sympathetic magical law of contagion essentially holds “once in contact, always in contact”. If an entity that people regard as contagious touches an item that is not, this changes the perception of the ‘clean entity’ (Rozin et al., 2008 [Rozin & Fallon, 1987; Rozin & Nemeroff, 1990 p760 Disgust]). North American college students rejected their favourite beverages after they were briefly in contact with a sterilised cockroach. North American students were also reluctant to drink from a glass that had been filled with dog feces even though it had been washed properly. This fear of contamination of a disgusting entity is powerful and universal among adults (Rozin et al., 2008 [Rozin, Millman & Nemeroff 1986]).

Framing is a behavioural strategy that keeps potential contamination out of consideration. We do not think about the animal that we are eating, or the hygiene of the person who is preparing our food. The framing mechanism needs to be taken into account when developing insect food. The concept of framing also includes how much and in what way insects should be shown on packaging.

Disgust sensitivity differs with gender and studies show that women are more sensitive to disgust than men. (Rozin et al., 2008 [Haidt, J., McCauley, C.R., & Rozin, P., 1994]) Could it be that women are more also more disgust sensitive towards insects?

3

DIFFUSION OF ENTOMOPHAGY

3.1. DIFFUSION OF INNOVATIONS THEORY

The diffusion of innovation refers to the process that occurs as people adopt a new idea, product, practice, philosophy. “Diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system” (Rogers, p. 35, 2003). An innovation is an idea, practice, or object that is perceived new by an individual or community. “The perceived newness of the idea for the individual determines his or her reaction to it. If an idea seems new to the individual, it is an innovation” (Rogers, p. 12, 2003). The curve of all adopters follows the normal bell-shaped curve. Diffusion of innovation is more a social than a technical process, as the innovators and early adopters persuade other groups to use the innovation.

Rogers (2003) divided the process into five categories of adopters: innovators, early adopters, early majority, late majority, laggards and sometimes non-adopters. Early adopters and innovators spread the word and get other people excited about the innovation. Insect eating may have challenges to reach critical mass, but insect tasting, innovative products, education and promotion will help to spread the word. As the majority is not a homogenous group of people, there has to be a variety of products that people can adopt.

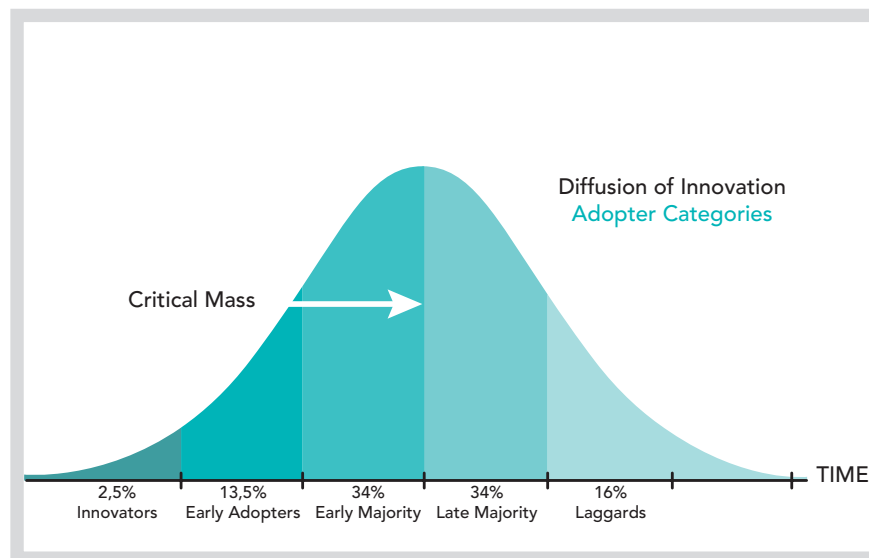


Image 6. Diffusion of Innovation Adopter Categories (Rogers, 2003). Redrawn.

3.2. DIFFUSION OF INSECTS

This chapter reflects Matan Shelomi's article (2015) on diffusion of insects to insect protein packaging and what should be taken into account in marketing and product development. Matan Shelomi argues that marketing insects properly will facilitate diffusion, and asks, considering market strategies, if accessibility could also drive demand. Finland follows EU law, hence supermarkets are not yet allowed to sell edible insects. However, people are more curious than ever to try out new sorts of food. Private events can serve insects as food but organisers usually pass the responsibility onto consumers – insects can be tasted at one's own risk.

Matan Shelomi reflects entomophagy to Roger's innovation attributes, those that innovation needs to diffuse properly in a society. The attributes are: relative advantage, compatibility, low complexity, trialability, and observability.

"For the Western consumer, how does entomophagy fare relative to existing food technologies? Poorly. Certainly eating insects provides no status benefit: even in countries where entomophagy exists, such as Mexico, only the rural, indigenous persons consume insects regularly (de Conconi, 1982). The more wealthy and urban populace looks down on insects as food for the poor or primitive (Costa-Neto, 2013; Ramos-Elorduy, 1998)."

Shelomi argues that insect eating has not entered the Western world because it gives no social status benefit, no relative advantage. This is true when thinking of non-Western people and how they often give up their indigenous diets as a Western diet is often more desirable and looked up to. Although, I think the issue is more complex than that. Certainly in the West, eating insects wouldn't provide a status benefit, but I would argue that, at least in Finland, eating insects is regarded as somewhat neutral from a social status point of view. Also, people are making ever more conscious environmental decisions about their everyday behavior, including eating and transportation. Choosing entomophagy over regular meat eating as a social act promotes conscious choice to mitigate one's impact on climate change. Yet, entomophagy is not neutral in the West in terms of habits and culture, but I would argue it does not lower a person's social status, in fact I think it can be quite the contrary. Being environmentally conscious can make the person's social status higher. What is lacking in Shelomi's argument for 'relative advantage' is that Western people themselves are the trendmakers and can invent new global diets and establish new global trends. New diets can rise from obscurity and gain popularity quite suddenly, as has happened with so-called superfoods such as goji berries, acai and blueberries in Finland.

Currently we are surfing on a protein trend. More and more people are concerned about their health, care about their looks and exercise to stay in

shape. They pay attention to body and looks; people also want to eat healthily. Especially in Finland there is a big protein trend sweeping the aisles of the supermarkets. There is a great variety of protein quark, bars, and yogurts that are marketed heavily. The time is especially propitious for any kind of protein-rich food and insects could easily have their niche in the Finnish supermarkets. Shelomi considers entomophagy's compatibility with need and argues that West is not lacking for cheap protein – quite the contrary, there is a problem of obesity. Since insects are not “needed” in the West they should be marketed as luxuries, delicacies, condiments, non-essential supplements or snacks. As stated earlier, insect protein has great nutritional value and could be marketed as a healthy food.

Complexity is negatively correlated to the successful adoption of an innovation. Less complex innovation is more likely to be adopted. As a food ingredient, edible insects seem complex to use, but if they were incorporated in the foods that we know, insects would be more likely to be adopted. As for packaging, visually it should convey the trustworthiness and normality of insect eating. Some products, such as cricket flour, could include recipes to help cooking, or cricket flour could be an ingredient in readymade baking products. Food is a very delicate matter and there is a great reluctance to put an insect in one's mouth. Triability is highly important when it comes to diffusion of insects. People follow the example of others and bug nights and insect tastings are crucial to invite people to eat insects. Once they have tried insect eating, they are more likely to try again. As for insect protein bars, when they come to the Finnish market it is important to organise tastings to gain trust.

Rogers' (2003) last attribute for successful diffusion is observability. Shelomi points out adventurous TV shows that play on the disgust factor of entomophagy. That kind of media attention has not been good for insect eating and is one of the reasons entomophagy is regarded an odd activity. Because Shelomi concentrates on the negative aspects, on why entomophagy has not being successfully diffused, he lacks positive attempts for gaining better observability. One of the biggest issues in insect eating is that we do not know what insects are. Personally, I have been privileged to observe edible insects throughout this thesis process as we grew them (in captivity) in our kitchen. Seeing insects grow and feed brings them closer to everyday life and helps to understand them as a part of nature's entity. I have seen their metamorphosis and I now understand their life cycle. I have been cooking insects from time to time, and that makes it easier to think about insects as a normal food. Being in contact with them changes the relationship from fear and disgust to curiosity and understanding. This kind of observability would be highly recommended for example in schools or kindergartens that would, in the long term, facilitate successful diffusion.

Shelomi gathers some great marketing ideas and states that entomophagy promoters should concentrate on rearing, packaging and safe supply and not worry too much about to convince people to eat them, demand will take care of itself.

Here are some of his suggestions for marketing insects

- Clever euphemisms could help, such as land shrimp or using the more exotic scientific name rather than the common entomological name (Holt, 1885; Looy et al., 2014)
- Insects could be marketed for healthful eating trends such as the Paleolithic diet, Atkins diet or especially protein-rich food for bodybuilders
- Insects could also be promoted as non-GMO and gluten free
- Insects often are used in the same way as nuts are, they also could be marketed the same way; in fact dried crickets taste similar to nuts

BUYER PERSONAS

Invenire, a marketing consultancy, demonstrated potential consumers for edible insects and made a model of diffusion of edible insects based on Rogers' theory. The first group to adopt edible insects (Innovators) are characterized as Trailblazing Trendsetters, Experience Seekers and Hardcore Sustainabilistas. Early adopters are divided into two groups: Nutrition Enthusiasts and Fitness Fanatics. Early majorities are Foodies and Comfy Greens. Late majorities are Balancers and Healthy Convenience Seekers. Laggards are the Rest. Invenire described their personality characteristics based on the assumption that the characteristics reflect their attitudes towards edible insects.

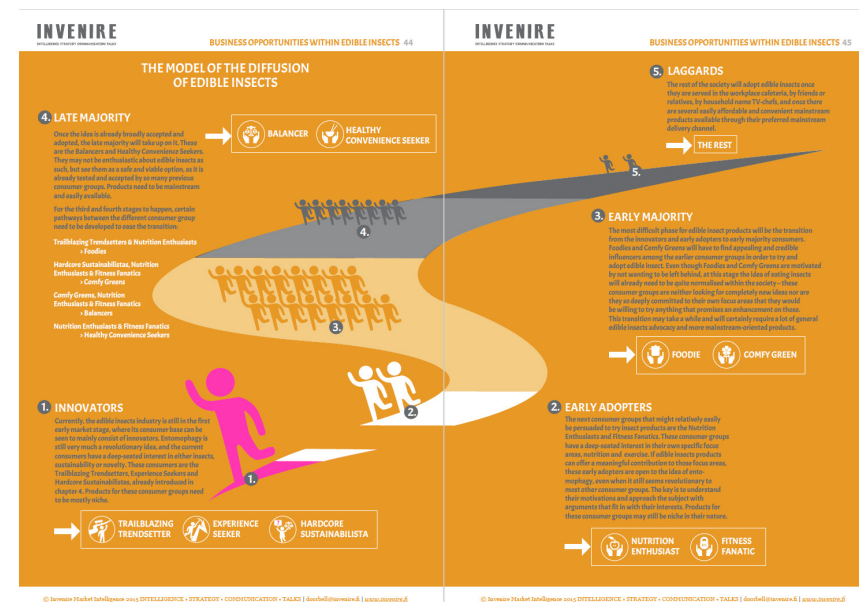


Image 7-11. Invenire Market Intelligence. The Model of the Diffusion of Edible Insect. 2015

DESCRIPTION OF INVENIRE'S FICTIONAL BUYER PERSONAS

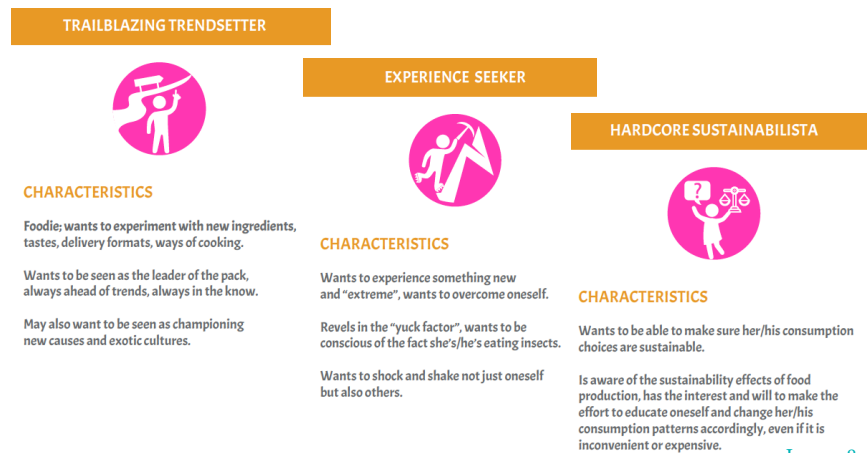


Image 8.

Innovators. "The current consumers have a deep-seated interest in either insects, sustainability or novelty. These consumers are the Trailblazing Trendsetters, Experience Seekers and Hardcore Sustainabilistas. Products for these consumer groups need to be mostly niche."

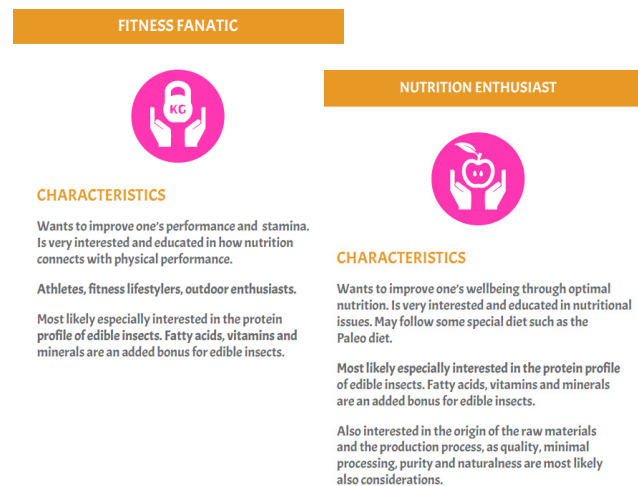


Image 9.

Early Adopters. "The next consumer groups that might relatively easily be persuaded to try insect products are the Nutrition Enthusiasts and Fitness Fanatics. These consumer groups have a deep-seated interest in their own specific focus areas, nutrition and exercise. If edible insects products can offer a meaningful contribution to those focus areas, these early adopters are open to the idea of entomophagy, even when it still seems revolutionary to most other consumer groups. The key is to understand their motivations and approach the subject with arguments that fit in with their interests. Products for these consumer groups may still be niche in their nature."

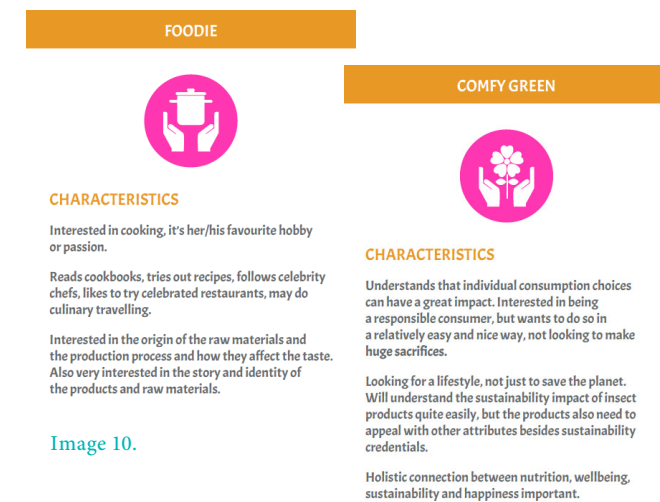


Image 10.

Early Majority. "The most difficult phase for edible insect products will be the transition from the innovators and early adopters to early majority consumers. Foodies and Comfy Greens will have to find appealing and credible influencers among the earlier consumer groups in order to try and adopt edible insect. Even though Foodies and Comfy Greens are motivated by not wanting to be left behind, at this stage the idea of eating insects will already need to be quite normalised within the society – these consumer groups are neither looking for completely new ideas nor are they so deeply committed to their own focus areas that they would be willing to try anything that promises an enhancement on those. This transition may take a while and will certainly require a lot of general edible insects advocacy and more mainstream-oriented products."

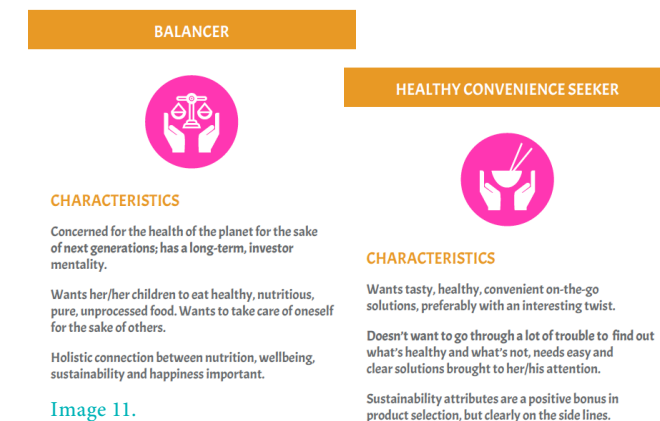


Image 11.

Late Majority. "Once the idea is already broadly accepted and adopted, the late majority will take up on it. These are the Balancers and Healthy Convenience Seekers. They may not be enthusiastic about edible insects as such, but see them as a safe and viable option, as it is already tested and accepted by so many previous consumer groups. Products need to be mainstream and easily available."

3.3. HOW SUSHI WENT GLOBAL

Could diet trends such as sushi be comparable to insect eating? The story of how sushi went global might help us to understand how insects could gain global attention. This is something that entomophagy promoters could look at.

The sushi trend started in California in the late 1960s or '70s, depending on the source, as sushi was a light and healthy lunch eaten by the trendy and busy Californians. One of the milestones for sushi's global journey was the California Roll. Americans at the time were not used to eating seaweed, so Hidekazu Tojo, the man behind the California roll, wanted to hide the seaweed and rolled the sushi inside out. As people did not see the unusual ingredient, they were less hesitant to try sushi. At the time chef Tojo was working in Vancouver but had customers from out of town, especially from Los Angeles. According to the story, gradually this inside-out sushi adopted the name California roll. Japanese culture has a long heritage and in the '70s it was radical to change traditional ingredients. Tojo was experimenting with sushi rolls with avocado, and that also became a big hit (White, 2012).

The story of how sushi went global is interesting because as a trend, sushi now has a huge impact on the global fish population. Also, it is a dish that conquered the global culinary world from Asia. This is similar to insects, as they are consumed mostly in non-Western part of the world. If entomophagy gains popularity among masses in the West, it is important to notice that it may also have environmental consequences: insects may flee from the places they are growing and shake the balance of the existing ecosystem as non-native species. Commercial insect harvesting can be environmentally destructive, for example in China the *Polyrhachis* ant is in danger of extinction due to its use in medicinal rice brandy (Menzel, P., & D'Aluisio, F., 1998). Regulation is needed in order ensure sustainable harvesting practices (Shelomi, 2015[Johnson 2010]). Insects may cause allergies which is important to inform clearly on packages when commercial insect products are launched.



Image 12. California roll. Just One Cook Book. 2011

4

PACKAGING DESIGN AND EDIBLE INSECTS

Marketing edible insects in a Western context is a great design challenge. Edible insects face many objections, are perceived as unappealing and disgusting, even though their nutritional and environmental benefits are well justified. Marketing edible insects provides great learning experiences from a graphic design point of view, and opens up new research topics in consumer behaviour research, design research and marketing strategy. The decision to show or hide insects on the packaging will play a major role in a retail environment. Packaging and its design can either nudge people towards new eating experiences of edible insects or increase repulsion towards the whole product category. Perhaps diffusion of insects will happen with a variety of products that are targeted to different kinds of people. For instance, the early and late majority might adopt insect products that are similar to their current food products, whereas early adopters might want to purchase insect products that resemble their origin. This division of people creates packaging design challenges and opportunities for pursuing different consumers.



American company Chapul Cricket Bars removed crickets from their packaging.

Image 13. Old Chapul packaging.

Image 14. Current Chapul packaging.

4.1. PACKAGING DESIGN IN SUPERMARKET ENVIRONMENT

In earlier times, packaging was considered merely as a protective item but today packaging is seen more as an inherent component in marketing. Pildtich (1961) described packaging as a 'silent salesman'. Supermarkets are full of products that try to capture the consumer's attention. This means that in packaging design, not only the technical aspects but also the visual parts are essential. Design, in fact, is regarded as the key marketing element (Kauppinen-Räsänen & Luomala, 2010 [Bloch et al. , 2003; Creusen and Schoormans, 2005]). Food product purchase decisions especially are typically low-involvement and impulsive processes. Seventy per cent of brand decisions are made in-store, even if the consumer has entered the store with the intention of buying only certain products or has made a shopping list. (Underwood, 2003) Supermarkets are full of products: according to Food Marketing Institute 2016, an average US supermarket carries over 40 000 products on its shelves. This is a very large number of products that consumer sees every time they visit supermarkets. For packaging design, it means that the packaging needs to stand out, convey relevant information of the product and be memorable in order to be purchased again. Consistent packaging design brings product variations together and makes them look part of a bigger entity (Tuormaa, 2013 [Järvi-Kääriäinen and Leppänen-Turkula 2002, 221; Vuokko 2003, 49]). As for insect protein



Image 15. Protein bars in supermarket environment.

products, marketing material would be essential, so that consumers who are willing to test new protein products could find insect products from the aisles. Marketing material could also include recipes and general information about nutritional facts and environmental benefits.

4.2. PACKAGING DESIGN KEY ELEMENTS

Packaging design adds value to the product and lures the customer to grab the product. The form of the packaging along with the graphic design helps to create a memorable product. There are also several limitations and regulations for marketing products that need to be taken into account when designing packaging. Often, the designer has to cope with several languages, dimensions, different materials and printing techniques. It is important that the customer can use the packaging correctly and is fully informed about the product through visualisations and text. Packaging designing is challenging, because the designer needs to combine aspects such as product information to appeal to the consumer's rational decision-making process, but also connect with the customer on an emotional level to evoke positive feelings towards the product. Packaging design is about deep understanding of customer behaviour that cannot be thoroughly learned by studying and reading but by practising packaging design, testing and learning from mistakes. The best designers are able to use typefaces, graphic elements and colour to appeal exactly to the customer segments that they want. Design is a skill that requires understanding of people, culture, and behaviour as well as current and future trends.

COLOUR

Colour is one of the main elements in packaging design. Colour can be used to express feelings and atmosphere. Package colours have two additional functions: colours attract attention (Kauppinen-Räsänen & Luomala, 2010 [Grimes and Doole, 1998]), and consumers use colours as stimulus-based information (Kauppinen-Räsänen & Luomala, 2010 [Garber et al., 2000a]).

Colour is tightly connected to culture and creates culture-specific meanings in packaging. Dairy products' colours vary across different countries. In Finland, for example, light blue means skimmed milk and red whole milk, whereas in the UK red indicates skimmed milk and dark blue whole milk. Sour milk in Finland is packed in green, whereas in UK semi-skimmed milk uses green. People make quick decisions in a supermarket's dairy section and changing these kinds of normative colours suddenly would create a tiny chaos.

Insect protein bars are not yet sold in supermarkets and therefore there are no normative package colours for insect products. Candy is another product category that has less normative colour coding. Some flavours are associated with certain colours, but mostly sweets use all kinds of colours in packaging.

Research on colours has revealed that people give meanings to colours. In the West, red is associated with exciting, hot, passionate and strong. Warm colours such as red and yellow attract attention [(Garber et al., 2000a; Schoormans and Robben, 1997) Kauppinen-Räsänen & Luomala, 2010]. Green symbolises safety, tranquility and natural. Blue represents dignity and is often used by authority. Yellow has a meaning of warmth, novelty and caution. Purple represents luxury and quality. Black reflects sophistication, mystery and power. The meanings of colours vary in different cultures but also their meaning within one culture can change according to situations and events (Evans et al., p. 46-47, 2006). Women find colours more alluring than men and children like primary colours, especially yellow (Evans et al. p. 33, 2006).



Image 16. Arla Ihana, premium yogurt with black packaging that differentiates itself from other yogurts as dairy products do not usually use black.

"The reasons people buy treats are emotional, not functional so the concept needed to reflect this, and could even be a little bit decadent. Our aim was to design an intense and mellow looking pack that would suggest marvellous flavour combinations and cleverly counter the conventionality of yogurt, with bold design choices. The end result is a dramatic design solution that successfully sets Ihana apart from the current yoghurt selection in the market." Design Agency Kuudes Kerros 2015

4.3. PACKAGING AND EMOTIONS

People often refer to rational decisions, but emotions play a significant role in our daily consumer decisions. Even a big decision such as buying an apartment is both a rational and emotional choice. “It just felt like home” is something that we might say when we make a lifelong commitment with a mortgage. The same applies to packaging and the products inside of it. “It just felt appealing” is what we might say when we look inside our shopping bag with products that we had not intended to buy in the first place. Great packaging appeals to our emotions – it can make the person who has never tried the product before test it for the first time. Great packaging makes us curious about what is inside, and somehow speaks to us. When we buy packaged food products, we buy the whole experience: the packaging and the product. If the label has been damaged or the packaging somehow stained, we tend to leave the product in the supermarket. A torn package means a contaminated food product, we might think. This is when our emotions talk over rationality. The product whose packaging is somehow damaged does not deserve our money.

Good design appeals to our emotions and makes us take the product from the shelf. Good packaging design arouses our curiosity, gives us excitement and pleasure. Personally, I think the best packaging design is tightly connected to the product's form and plays visually with it. According to Dupuis & Silva (2008), advertisement is important but the package, however, closes the deal.

4.4. CONSUMER BEHAVIOUR RESEARCH

Product information is delivered to consumers by visual and textual forms on the packaging. According to the empirical results of dual coding theory (Paivio 1971, 1986) visual stimuli generally affect more strongly than verbal stimuli. Also, people tend to have less discomfort in testing new food products if there is visual information about them (Baker et al. 2016 [Heath et al., 2011]). However, insects may have counterproductive effects, as they often are perceived as unappealing and disgusting by Western consumers. The concept of eating insects as food often involves negative connotations such as “dirty, unhygienic, unhealthy, disease transmitters” (van Huis et al., 2013). Research reveals that consumers make quality judgements based on a product's image, information and appearance (Baker et al. 2016 [Grunert, 2005; Zeithaml 1988]). Visual package elements play a major role, representing the product for many consumers, especially in low involvement, when the purchase decision is made quickly. Taking all this into consideration, insect product packaging faces many challenges, yet there are options for great design solutions as well.

4.5 PACKAGING DESIGN RESEARCH CHALLENGES

“Research is both a help and a hindrance in the design process. When presented with the right kind of insights into a brand and its consumers up front, research speeds the design process and infuses it with deep relevance. Research used without intuition and expertise to validate a design can discourage innovation, as traditional methodologies often produce research that verifies known ideas. Designers need to understand the value and pitfalls of research to persuade their clients to implement tools that assist design.”(DuPuis & Silva, p 44, 2008)

Consumers tend to look at packaging holistically; the packaging is a combination of the actual product, packaging form, visual and textual information and the environment where the packaging is presented. For these reasons, packaging design research is challenging. In this thesis, my aim is to get an overview to help the future insect product promoters to enter the market with suitable packaging design elements. As mentioned before, great packaging for a great product can increase sales, as various consumers become interested in the product.

In order to get to the best results in packaging design, the designer needs to be involved in the research from the beginning. This way the research can focus on the challenges that the designer and the industry face frequently. As a design brief, designer needs symbolic and associative information that bring solutions to life. Actual business problems are difficult to approach without concrete insights where the possible solutions may lie. (DuPuis & Silva p. 46, 2008)

DUPUIS & SILVA (PP. 65-75, 2008) SIX GUIDING PRINCIPLES TO STAY AHEAD IN PACKAGING DESIGN

1 DON'T REACT – PROACT

As cultures evolve, so does graphic design. In order to be lead the markets, the designer needs to keep up with visual trends. This does not mean good graphic design would be only surfing on trends, but great graphic design can be both trendy and long lasting. Changes in design should always make strategic sense. Making changes for their own sake by reflecting personal opinions can lead to costly missteps.

2 CONNECT ON AN EMOTIONAL LEVEL

Emotional connection with a brand entices the consumer to pick up the product again and creates willingness to pay a bit extra for a product. Design should elicit a positive response in consumers. This can be done through typography,

design elements, illustration, photography and colour that is in line with the intended consumer segment. Proper aesthetic combinations create sensory experience and make the consumer more emotionally connected with the product. This way the consumer feels justified in paying more for the product.

3 DO NOT SETTLE FOR PARITY

“Beware the parity line—it’s the invisible ceiling that is made of proof and an absence of risk.” (DuPuis & Silva, p. 70, 2008) The discipline of packaging design is very strategic and success is tied to sales. Often, marketing teams become fearful of big changes and many good intentions get stuck in a company’s own internal processes. The designer must lead to effective solutions that take the design above the parity line, which sometimes include risks.

A product’s position needs to be observed in relation to its competitors. Is the brand taking risks and standing out or is it playing safe and blending in? Often, typical research methodologies do not work well in quantifying the new and different. It can be difficult for focus groups to accept something new and different, hence breakthrough ideas are ditched and parity accepted.

4 FOCUS ON CORE VALUES

Core values are beliefs and ideas that an organisation holds dear. They reflect brand and corporate culture. Core values help in the creative process to support the development of a package that represents the people who made it. Every product should reflect the core values of the organisation.

5 VALIDATE APPROPRIATELY

“If consumer research were an exact science, new products would not have a failure rate over 90 percent” (Dupuis & Silva, p. 74, 2008). Each consumer has their own opinion that varies according to age, gender, culture and economic status. A realistic sense of the validity of a package design can be gained by placing the product in a retail setting. Unfortunately, it is often time consuming and expensive to test packaging in a retail environment, but it can be important for getting genuine feedback.

6 COLLABORATE

Packaging design is a platform of collaboration. Multidisciplinary teams need precise communication and willingness to understand each other. The best results occur when design is valued by the client and they understand the benefits of design. The collaboration is seamless when solutions are aligned with clients’ goals and objectives. Packaging is the most strategic consumer touchpoint and should be budgeted accordingly.

5

CASE STUDY:
INSECT PROTEIN BAR PACKAGE TEST

5.1. THE DESIGN PROBLEM

In order to launch insect products in the West, some issues in marketing need to be solved. For instance, there is no coherent opinion whether insects should be shown in packaging. New Nutrition Business magazine's article to commercialise insects recommend not to show insect. In the article New Nutrition Business magazine claims that consumers do not want to be reminded of what they are eating:

Packaging should avoid referencing insects: just as consumers don't want to be reminded that they're eating a cute n' cuddly creature when they pick up their leg of lamb in the supermarket, they don't want to think of bugs when they bite into their protein bar. As one consumer commented: "With the cricket flour, you don't see the insects...I would not have put the pictures of insects on the packet". (Commercialising Edible Insects: How to Market the Impossible, 2014)

Another study claims that consumers feel time pressure in the supermarkets, therefore consumers most likely make purchase decisions based on imagery information, because they have less time to read product descriptions (Baker et al., 2016 [Silayoi & Speece, 2004]). This is also something that needs to be considered when marketing insect products.

In other words, if an edible insect containing food product is traded in a retail setting, consumers could most likely make purchasing decisions based on imagery information rather than descriptive information due to time pressures. This provides important managerial suggestions in how to develop packaging and marketing materials. (Baker et al. p. 108, 2016)

"As such, edible insect products in a retail store should rely more on images in marketing while edible insects in hospitality settings, such as restaurants, may want to focus more on descriptions." (Baker et al. p. 109, 2016)

Baker et al. (2016) study looks into consumers' reaction to an image of actual image versus powdered/processed image of edible insect on packaging. The study also examines how consumers react to an easily recognised name versus scientific name/ambiguous name of edible insect. Packaging is the crucial point-of-sale interface between customers and the product. From a design point of view, there are multiple ways to show insect on the packaging, but there is not much design-oriented research about it. For example image 17. (Baker et al. 2016), the flour and insect are visually placed differently and have different perspective. Grinded insect flour image is taken from the side, whereas the bug image is taken from above and is much more emphasized in the label by size and positioning. In another words, the grinded insect flour and chili uses the same perspective but the bug image is taken above, therefore is visually emphasized more. This study uses packaging design holistically and tries to find ways to illustrate insects more extensively.



Image 17. Baker et al., 2016

5.2. BRIEFING

As there are no edible insect products in Finnish markets, we can say that there has not yet evolved normative packaging for edible insect products, as there has for products such as ketchup and milk. Therefore, the brief for the design students deliberately left space for imagination and exploration. I wanted to make sure that this kind of approach would give the students and the packaging design course lecturer a wider perspective on what is expected. I assumed this would result in a variety of packaging for testing. The framing of the brief included information of the size (40 g protein bar packaging), printing limitations, nutritional facts and product information, space for the bar code and the text that was expected on the face of the packaging. One of the biggest limiting factors was the taste of the product – sea salt, peanuts and crickets. Because the taste of existing protein bars can be something between savoury and salty, I did not want to limit whether the students' impression of the product was more towards one or the other. Before giving the brief, I introduced the idea of entomophagy. The product information was taken from one of the leading insect protein bars, Exo.

The students were second-year packaging design students, who have had only a little experience of making life-size packaging. The class size was 20, and each student had to design the packaging as an individual work. Briefing included the name Entobar and two variants were to be designed: one that highlights the cricket, and a second that highlights the peanut taste. This choice was made because of the concern that all packaging might emphasize the cricket too much. The course lecturer was an experienced teacher in branding and had developed her own method in branding to find the possible target market. Each of the students had to depict their product's end user and submit a life size mock-up that had a real protein bar inside. The method of identifying the possible customer helped to differentiate the packaging from existing protein bars and made them divergent from each other.

5.3. SELECTION CRITERIA OF THE PACKAGES

Students made 20 concept mock-ups, two variants each, from which 14 mock-ups were selected for the consumer behaviour testing. The biggest criterion for selection was to minimize distracting aspects that would affect test results, such as language and misspelling. I did not want the respondents to select their least favourable packaging based on design elements that are not related to what was tested – the image of an insect. In some cases spelling mistakes may have been noticed, hence affected the results. Some excluded packaging had information that was different from the others, such as language. I did not want the respondents to make their decision according to language preferences. Clarity was one of the criteria – the name of the packaging, Entobar, needed to be clear and designed with a legible font.

Those packages that were selected for testing were all very different from each other. I was positively surprised by the good quality of all submitted mock-ups. One can see that the students were having fun while making them.

5.4. SURVEY

I made three versions before the final survey and asked for feedback from my supervisor and colleagues in Seinäjoki university consortium. What was important to understand from the feedback was that the questions needed to be easy enough for a layperson to understand. I wanted to make sure that the survey would not be too long or use vocabulary that is not familiar to regular people. Lengthy surveys could repel some of the relevant respondents as they might feel it too excessive to fill out in the middle of their lunch break. One page was enough for this research.

It can be difficult to pick one's favourite from the variety of 14 different packaging. It requires time to go through all of them at once. That is why I asked the respondents to fill in the three most liked packaging designs, and the three least liked. This would give more direction on what kinds of packaging were liked, but possibly not selected as the very best or the worst.

The survey was written in Finnish assuming most of the respondents would be Finnish. The comments of the respondents are collected in their original language and the ones that bring out further insights are translated into English for this thesis.

5.5. HYPOTHESIS

As insects are depicted “dirty, unhygienic, unhealthy, disease transmitters” (van Huis et al., 2013), the hypothesis of this research includes that packaging with little or no image of insects will be more successful in testing. People do not necessarily like how insects look, and can be intimidated by them.

Research reveals that women score higher in Disgust Scale (Rozin et al., 2008 [Haidt et al., 1994]). Drawing a conclusion from this, the hypothesis comprises that women might also be more sensitive to insect image. Disgust sensitivity is inversely related to education and socioeconomic status (Rozin et al. 2008 [Doctoroff & McCauley, 1996]). However, socioeconomic background was given no importance due to the testing method, which was a quick survey on favourite packaging. Only educational background was asked.

At a very early stage, the decision was made that the tested insect product packaging should be life-size mock-ups. The idea behind this was that a real-looking mockup would help the respondents to grasp the idea of an insect protein bar. It may lower their barriers against the idea of eating insects. Many people have not even heard about edible insects, therefore it is important that the subject is made clear for them and that they have something tangible to touch and roll around in hand. Realistic mock-ups indicate that this kind of product could be found in the supermarket. Entobar's “ento” refers to entomophagy and entomology, whose connotation for many Finnish people is rather neutral, as most do not speak English as their mother tongue. If the name does not immediately link to insects, or uses a somewhat clever euphemism, the perception of the product might become more neutral and the idea of eating insects could have a better chance of adoption (Shelomi, 2015). Previous research indicates that images of edible insects can have strong reactions toward unfamiliar and disgusting food products (Baker et al., 2016). Therefore, this research hypothesizes that **1. The packaging without visual stimuli of an insect will be more successful in testing. 2. Women will react more to the image of an insect on packaging.**

5.6. PACKAGE TESTING

Fourteen different protein bar mock-ups were placed on the table and had numbers on the back for the respondents to refer to. There were also prints to refer their choices. The informants were given the survey (appendix) and asked to mark the three most attractive (houkutteleva) packages in a rather quick hypothetical purchase situation. From those three they had to select the one that they would like to buy. This part took more time than I initially estimated, because the test packages were not familiar to people in advance and they had to look through them carefully. Then they were asked to analyse their choice and describe why they would purchase their selected favourite. Reynolds and Gutman (1988) have suggested that, when ranking brands or products, product-specific questions should be asked, such as “What makes brand A the most preferred”. (Kauppinen-Räsänen & Luomala, 2010).

The same procedure followed for the least attractive packaging. First they were asked to select the three least attractive packages and then the one which would not be purchased, followed by the reasoning behind the decision. After they had selected their favourites and least preferred packaging, they were

asked to analyse whether the image of an insect had an influence on their selections. Lastly, before filling details such as age, gender and educational level, they were requested to fill in their views (mielikuva) on insect images on the packaging.

The testing location was in Seinäjoki, a city located in Southern Ostrobothnia, Finland. The first test session took place next to a lunch restaurant, Idea, located in one of the buildings in Frami - a meeting and convention centre, part of the Seinäjoki campus area. The restaurant organised tables and a group email in collaboration with Into Seinäjoki and Seinäjoki university consortium to reach people in the buildings to come for the testing session. This helped to reach a respondent rate of 73 persons during the four hours of testing. All of the informants spoke Finnish fluently, suggesting their background was Finnish.

After analysing the age profile of the first test participants, I decided to carry out another test with younger informants. The second test was held in the campus area of Seinäjoki University of applied sciences. The actual test location was close to the student cafeteria, which is a busy bypass route for the students to get to their classes. 48 persons, most of them under 30 years of age, participated in the second test.



RESULTS

6.1. QUANTITATIVE DATA

- Two test days in two different location in Seinäjoki in April and May 2016
- Respondents were mostly Finnish
- 121 respondents
 - 55 men (46%)
 - 64 women (54%)(two did not include their gender)
- 106 further comments about the image of an insect
 - 55 neutral and positive
 - 51 negative

Age distribution

- | | |
|--|---------|
| • 15-24 years of age: 30 respondents | (25,2%) |
| - 13 men, 17 women | |
| • 25-34 years of age: 39 respondent | (32,8%) |
| - 20 men, 19 women | |
| • 35-44 years of age: 22 respondents | (18,5%) |
| - 10 men, 12 women | |
| • 45-54 years of age: 21 respondents | (17,6%) |
| - 7 men, 12 women | |
| (two from this age group did not include their gender) | |
| • 55-64 years of age: 7 respondents | (5,9%) |
| - 4 men, 3 women | |
| • Two did not include their age | |

6.2. RESPONDENTS COMMENTS

Most of the respondents were not experienced in commenting on anything visual, and this test was most likely their first one. Some of the respondents had difficulties in finding words to comment on their choices; that surprised me as a designer. This fact, however, suggests that people mostly use intuition in purchase situations and do not think about their packaging choices profoundly.

THE COMMENTS CAN BE DIVIDED INTO FOUR CATEGORIES



1. Comments about the visual appearance of the packaging such as: “stylish, simple and fresh”.



2. Comments related to the product inside of the packaging such as: “looks tasty”, “looks like soap”, “looks crispy”.



3. Comments about the insect on the packaging, such as: “the insect is too close”, “artistic insect images”.



4. There were also gender-based comments such as: “too feminine” or “too dark and masculine” that suggest the packaging’s target audience is different to what the respondent represents.

TESTED PACKAGING



1.



2.



3.



5.



4.



7.



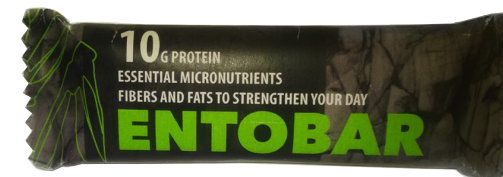
6.



8.



9.



10.



11.



12.



13.



14.

1.



PACKAGING NUMBER 1

POSITIVE COMMENTS (12):

1. Adjectives and comments used to describe the packaging:

Clean, simple, stylish, premium, natural and ecological ○○

2. Comments related to the product inside and its taste factors:

"Looks like chocolate because of brown wrapping",

woman 15-24 years of age 🦷

"Clean, stylish, stripped-down design that is in line with the current graphic design trend", woman 45-54 years of age ○○

NEGATIVE COMMENTS (6):

1. Adjectives and comments used to describe the packaging:

Dull, bland & old fashioned

"The packaging is nondescript", woman 15-24 years of age ○○

2. Comments related to the product inside and its taste factors:

"The product does not look what's inside", man 35-45 years of age

2.



PACKAGING NUMBER 2

POSITIVE COMMENTS (4):

1. Adjectives and comments used to describe the packaging:

"Natural, bio, healthy-looking" ○○

2. Comments related to the product inside and its taste factors:

"Fresh appearance that tells a little bit what the product contains" 🦷

NEGATIVE COMMENTS (3):

1. "Dull, basic stuff, I don't like the colour combination" ○○

4. "Too feminine", man 15-24 years of age ♀

3.



PACKAGING NUMBER 3

POSITIVE COMMENTS (3):

1. Adjectives and comments used to describe the packaging:

simple, plain, clear ○○

NEGATIVE COMMENTS (8):

1. Adjectives and comments used to describe the packaging:

Boring, dull, looks old, lame ○○

2. Comments related to the product inside and its taste factors:

"The packaging looks like soap", woman 35-44 years of age 🦷

4.



PACKAGING NUMBER 4

POSITIVE COMMENTS (6):

1. Adjectives and comments used to describe the packaging:

Colours & pattern is tempting, fresh ○○

2. Comments related to the product inside and its taste factors:

"Fresh and somehow tasty looking packaging", man 35-44 years of age 🦷

NEGATIVE COMMENTS (10):

1. Adjectives and comments used to describe the packaging:

Too colourful, glaring, messy

"Messy: text and pattern is messy, too many pixels" ○○

2. Comments related to the product inside and its taste factors:

“...is not related to anything edible.” 🦷

“The packaging does not tell what the product is.”

5.



PACKAGING NUMBER 5

POSITIVE COMMENTS (17):

1. Adjectives and comments used to describe the packaging:

stylish, fresh, tempting, good-looking, natural, attractive, simple, perfectly neutral, pleasant, sharp but not too much, clear, trustworthy

“Fresh, natural and attractive”, man 25-34 years of age ○○

2. Comments related to the product inside and its taste factors:

“Contains peanuts”, woman 15-24 years of age

“Packaging looks tempting and creates an image that the product is tasty”, woman 25-34 years of age

“Seems like it contains honey”, woman 35-44 years of age

“Simplicity - emphasizing healthiness at the same time” woman 25-34 years of age 🦷

3. Three positive comments about not showing insects.

“Does not associate too much with insects”, woman 45-54 years of age ~~🦷~~

NEGATIVE COMMENTS (1):

1. Adjectives and comments used to describe the packaging: “Quite nondescript looks appearance”, woman 45-54 years of age ○○

6.



PACKAGING NUMBER 6

POSITIVE COMMENTS (3):

1. Adjectives and comments used to describe the packaging:

Bright colours, contrast, simple, clear text and image, nice

“Clear text and image – no excess stuff”, woman 25-34 years of age ○○

NEGATIVE COMMENTS (3):

1. Adjectives and comments used to describe the packaging:

Graphic and cheap, anaemic ○○

2. Comments related to the product inside and its taste factors:

“...reminds (me) of detergent”, woman 15-24 years of age 🦷 ~~🦷~~

7.



PACKAGING NUMBER 7

POSITIVE COMMENTS (4):

1. Adjectives and comments used to describe the packaging :

Nice colours

“Colours hit me. Primarily I wasn't looking for information.”, woman 45-54 years of age ○○

NEGATIVE COMMENTS (19):

1. All of the comments are about the negative expression on the girl's face.

“Negative package illustration – get an impression that there is something wrong with the product. The attention focused on the person.” Man 35-44 years of age ○○

8.



PACKAGING NUMBER 8

POSITIVE COMMENTS (15)

1. Adjectives and comments used to describe the packaging:

Simple, stylish, clear, rock attitude, logo is a neat entity, typeface attracts attention ○○

2. Comments related to the product inside and taste factors:

Reminds (me) of salty liquorice and liquorice, appearing to be adequately chocolate-like, crispy looking, the packaging reflects the content (meaning insect protein) ~~Aw~~ ☹️

"Packaging simple enough, rock attitude, the logo was a neat entity", man 25-34 years of age ○○

NEGATIVE COMMENTS (11):

1. Adjectives and comments used to describe the packaging:

Too dark, too manly, too extreme, quite heavy, angry and sinister packaging, no design, dark reflects psychology -> negative, death colour, unpleasant ○○

2. Comments related about the product inside and its taste factors:

Does not look healthy, somehow does not link with food, inedible, get an impression of industrial processed product, looks poisonous ☹️

"Cricket image: I don't like insects to have anything to do with food. ~~Aw~~
Dark colour: It would be likable if dark and shine (meaning bright) but this colour not nice", woman 15-24 years of age ○○

9.



PACKAGING NUMBER 9

POSITIVE COMMENTS (8)

1. Adjectives and comments used to describe the packaging:

Professional design simple but trustworthy impression; good looking packaging; clean, fresh and have a good contrast; informative and attractive; colour palette mat / close to nature; visually beautiful but informative; Clear looking label; fresh and clear images and colours ○○

2. Comments related about the product inside and its taste factors:

Bars with peanut are likable; peanuts are the main ingredient ☹️

2. Comments on health aspects: healthy -> attract people with healthy life style; health aspects come out ☹️

3. Comments on insects: "The insect stays on the background, it is a good thing" ~~Aw~~

"Fresh and clean, the image of peanuts attracts. Content of insect stays on the background that is a good thing" woman 45-54 years of age ~~Aw~~ ☹️

NEGATIVE COMMENTS (5)

1. Adjectives and comments used to describe the packaging:

ugly; illustration is too messy ○○

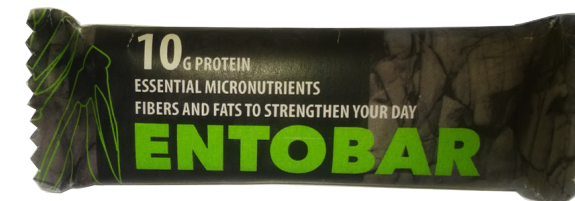
2. Comments related about the product inside and its taste factors:

Looks too much like a regular protein bar ☹️

3. Comments on insects:

Seems like it's made of crickets; illustrated insects are the least attractive: "Ugly and looks like it's made of crickets", woman 25-34 years of age ~~Aw~~

10.



PACKAGING NUMBER 10

POSITIVE COMMENTS (11)

1. Adjectives and comments used to describe the packaging:

Modern, dark, clear, clean, powerful appearance, sellable, impressive package design ○○

2. Comments related about the product inside and its taste factors:

Makes the biggest impression of the protein bar; Impression of nutrition; Exotic impression, suits with the product ○○ ☹️

"Modern, dark and clear. When looking closer the pattern becomes clearer." Woman 15-24 years of age ○○

NEGATIVE COMMENTS (3)

1. Adjectives and comments used to describe the packaging:

dark packaging ○○

2. Comments related about the product inside and its taste factors:

Appearance reminds (me) too much of fitness products 🦷 ○○
 3. Comments on insects: "Unpleasant appearance reminds too much of insects", man 25-34 years of age 🦋

PACKAGING NUMBER 11

11.



POSITIVE COMMENTS (10)

1. Adjectives and comments used to describe the packaging: clean, attractive, fine, trustworthy, fresh, cool, stylish ○○
2. Comments related about the product inside and its taste factors: "Picture describes what the bar is made from -> cricket flour. Black & white works." Man 15-24 🦋 ○○
 "Artsy insect images. Organic looking paper wrapping." woman 25-34 years of age 🦋 ○○

NEGATIVE COMMENTS (5)

3. All except one negative comments on insects: "Reminds me of contaminated food, swarming with flies." woman 35-44 🦋
 "Does not look attractive." woman 25-34 years of age ○○

12.



PACKAGING NUMBER 12

POSITIVE COMMENTS (5)

1. Adjectives and comments used to describe the packaging: Natural & ecologic ○○ "The energy bar really contains cricket and on this package we really see it.", man 15-24 years of age 🦋

NEGATIVE COMMENTS (26)

1. Adjectives and comments used to describe the packaging: scary, ugly, space monster, unpleasant, stale colouring, murky 🦋
 "Text is messy and not legible", woman 25-34 years of age ○○
3. Most negative comments are about the insect: "The image of an insect does not attract, because it looks hostile. Also the colouring is somewhat stale. The whole general impression is messy.", woman 25-34 years of age ○○ 🦋

13.



PACKAGING NUMBER 13

POSITIVE COMMENTS (12)

1. Adjectives and comments used to describe the packaging: attractive, cute, sweet, looks new ○○
 Most positive comments are about the pink colour of the packaging.
2. Comments related about the product inside and its taste factors: delicious looking; Package pleases me and makes an impression that the product is good; caramel looking packaging 🦋
 Other comments on the similarity of Geisha chocolate bar (Finnish chocolate product):
 "Reminds me of Geisha packaging." Man 45-54 years of age
3. Comments on insects: "I am a woman and pink pleases me. I still don't like the image of an insect on the side" woman 15-24 years of age 🦋 ♀ ○○
 "I like pink a lot. Maybe the image of an insect might disturb a bit but the colour is my favourite indeed.", woman 15-24 years of age ○○ 🦋
 "...looked like containing peanut but is something else.. ", woman 45-54 years of age 🦋

NEGATIVE COMMENTS MOSTLY ON THE COLOUR AND THE INSECT (6)

Adjectives and comments used to describe the packaging:

"Targeted too much at women." Man 15-24 ♀

"...incoherence between pink and dead insect.." Man 25-34 ○○ ~~Ad~~

"Insect looks mummified" Woman 25-34 ~~Ad~~

14.



PACKAGING NUMBER 14

1. POSITIVE COMMENTS (6):

Most positive comments on the colours.

"Packaging is attractive and trendy. Makes an impression of a new product.", woman 25-34 years of age ○○

NEGATIVE COMMENTS (5):

Couple of comments on legibility, one comment on insects and one about the product inside.

"Looks like wet wipe packaging, not food. Unclear what's inside.", woman 45-54 years of age 🦷

6.3. TEST RESULTS

RESULT CALCULATION METHOD

Respondents selected their favourite packaging, giving two points for that particular packaging. The two other favourites were given one point each. Respondents also had to select three least likeable packaging and name the one that they liked the least. The least favourite packaging was given minus two points, and the two other packages minus one. Then all the points were calculated together.

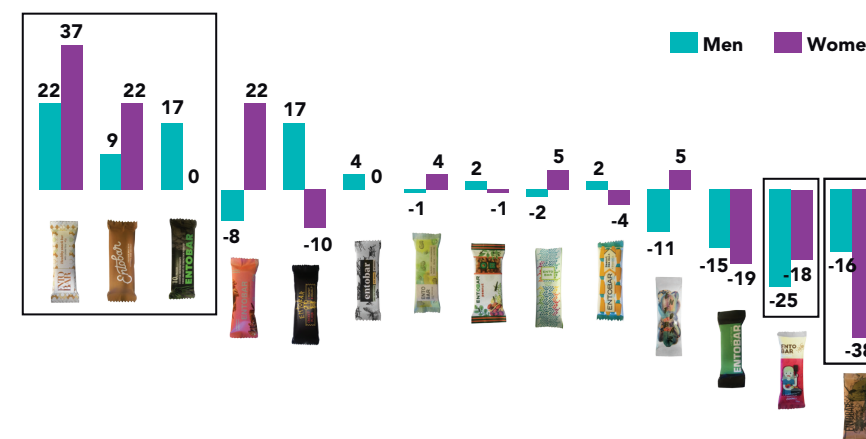
The most popular package (number 5) is the one with white background and light brown pattern, described as "pleasant, natural & attractive". The packaging colour is neutral and does not show insects. The most liked packaging was also



the favourite of men and women. It succeeded well in all age groups.

The brown packaging (number 1) with script typeface is the second most favourable packaging. There is no insect on the packaging but it creates associations to chocolate and caramel. Apparently, that is one of the reasons respondents were drawn to select this packaging. This packaging also managed well in all age groups.

Black packaging (number 10) with green logo was the third most liked one. Described as "modern, dark, clear & powerful appearance". On the left side of the package, there is an abstract delicate fine outline of an insect wing. According to respondents, this packaging was the most similar to existing packaging.

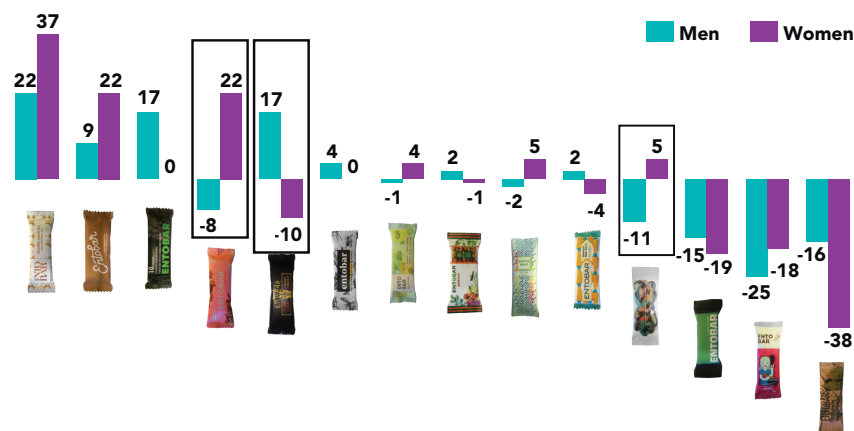


The least liked one had a big cricket on the face of the packaging (number 12). This was noted as "alien, scary, unpleasant". Also, respondents did not like the colour of the packaging, they stated it looked stale and murky.

The second least favourable package (number 7) has an unhappy girl on the package that says "I don't like to cook". This unfamiliar design approach shakes the notion of packages and advertising telling only positive messages. Instead of cooking the girl, presumably, wants to eat something readymade like a protein bar. Advertising and packaging design messages are usually very direct and positive. This message might be too indirect and leaves an impression that the protein bar does not taste good, even though the girl does not imply that at all.

DIFFERENCES BETWEEN MEN AND WOMEN

Women favoured the pink packaging (number 13) with a photograph of a cricket more than men. Interestingly, the cricket was a hindrance but the pink colour defeated the so-called disgust factor. All the respondents who selected this packaging as their favourite commented on the colour – the colour was something they really liked. It also reminded the respondents of the existing chocolate bar brand Geisha. Some women did not even notice the cricket, but thought the figure is chocolate or peanuts dipped in chocolate or caramel. The ones who noticed the cricket preferred the colour and ignored the cricket. One male respondent reported about the incoherence between pink colour and



dead insect that did not attract him. Another male respondent mentioned this packaging is “targeted too much for women”, because of the colour choice.

The black packaging (number 8) with integrated brand name and logo was one of the favourites of men but did not succeed well among women. Women described the packaging as “looks threatening, quite ‘heavy’” and “too murky and masculine”. Men thought the packaging was stylish and represented simplicity. Respondents also liked that the brand name was integrated with an image of a cricket yet clearly informed about the main ingredients. One respondent mentioned the “rock attitude” that pleased him.



The third packaging (number 14) that divided the votes of the two genders was white package that had colourful beetles visualised on the packaging. The packaging was favoured by women, who described the packaging as trendy

and they generally liked the colourfulness of it. This finding is correlation with previous studies that indicate women liking more colours than men. Also, maybe the jewellery-like packaging was something that men did not find attractive.

Both genders were sensitive to the insect image and the least successful packaging when counting all of the points was the package that has a close-up image of the insect (number 12). Respondents depicted this packaging as “scary” “alien” and “space monster”. This finding implies that people are not used to seeing insects close-up and find them repulsive and scary. It is interesting that men were actually more sensitive to “unhappy girl” (number 7) than the image of an insect and voted the red packaging with unhappy



girl as their least favourable. The result brings to mind the idea that men in general do not like to see unhappy women cooking in the kitchen. The real psychological reasoning behind this result, however, remains unfortunately out of this research’s scope.

6.4. EVALUATION OF THE RESEARCH QUESTION

- How does packaging affect the acceptance of insect food?
- What are the effects of insect image on the packaging?
- What elements make an insect protein packaging desirable?
- What are the personal factors that affect the acceptance of insect food?

Protein bars are usually fully covered with packaging, whereas bread or pasta packaging has a plastic window on the packaging where the consumer can see the product. As existing protein bars often do not have a window, the product purchase decision relies more on the packaging and the impression that it creates.

Depending on towards which customer segment the product is targeted, packaging can lure specific groups of people to try it. Packaging can make the product stand out from the competitors and be distinctive. Distinctive insect product packaging attracts especially novelty seekers. Presumptively they want to see the insect on the packaging and are ready to try novel, even unusual food products. Normative graphic design that is close to its competitors, seeks to stay below the parity line and blend in. Normative packaging also has its customer segments but they might be less willing to try out anything out of their usual supermarket repertoire. Cleverly designed packaging can make

people who usually are not novelty seekers try insect food.

According to findings of this research, packaging that refers less to insects with its visual appearance have better results in purchase situations, especially when targeting broader groups of different customer segments. Customer segmentation and profiling of future consumers are helpful for designers to know what kind of packaging is suitable for the possible target market for insect food consumers.

Packaging is an intrinsic cue of the product properties. The decision of showing insects on packaging is complex and requires strategic design thinking. According to the results of the consumer behaviour test, an abstract representation of an insect scored higher than realistic illustration. Many of the respondents commented realistic insect illustrations as disgusting. Some illustrational aspects divided respondents' opinions. For example insects that were placed next to other ingredients such as peanuts were described as



"contaminated" by some informants. For others this representation appeared as "natural". Packaging that had multiple black and white realistic looking insect images was related to spoiled food and insect repellent. The same packaging, on the other hand, appeared as stylish, trendy and informative for others. Respondents commented that the insect should not look hostile. For many realistic close-up illustrations were related to repellents. However, close-up image of a cricket as an abstract representation combined with product name was described as stylish. To show or not to show insect on the packaging divided opinions: some informants were concerned that the product might be misleading if it does not have the image, whereas the others were content that it is better not to show insect, because the impression that it creates is negative.

In order to understand what elements make the packaging desirable, the

most successful packaging in the test are going to be analysed. The most favourable packaging had an illustrated pattern that referred to sesame seeds and honeycombs, according the informants. It is a premium looking protein bar that uses serif and sans serif font in the product information. The logotype is written with serif typeface. The description refers to healthiness but also describes that the packaging is made with cricket flour. The cricket flour is given less importance by size, placement and the font colour is black. The packaging is fresh looking and uses white space cleverly and the position of



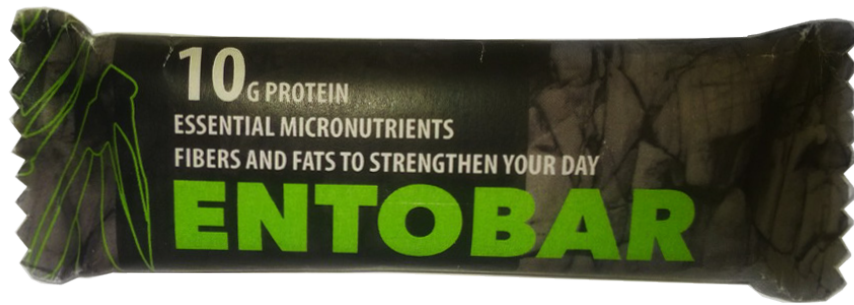
the logo leaves space for the background pattern to be noticed.

The second most successful packaging reminded the respondents of chocolate. There are not many visual elements in this design, but those that have been used are carefully placed in order to create an elegant composition. The product description relies on typography and the colour of the background. The logotype is hand made script font and the product information is written



with sans serif. There is no reference to insects in this packaging.

The third most successful packaging is the most similar to existing protein bars on the market. The packaging emphasizes health aspects and nutritional values of the product and does not verbally refer to insects. Instead, there is a fine outline of insect wings on the left side of the packaging that connects the packaging visually to insects. Using green as highlight colour can be interpreted linking to insects, environment and natural diet. This packaging assures that an abstract insect image can be utilised, when designed with style.



Similar to these three is that the name of the protein bar is large, clear and legible. None of these packagings had direct visual references to insects. Instead, the packaging had visual familiarities to existing Western food products such as sesame seeds, honey, chocolate and regular protein bars.

The first people who want to try edible insects are most likely curious people who want to experience something new. According to the results of the consumer behaviour test, people who have been exposed to the idea of edible insects expressed more interest in consuming insect products. Therefore, personal characteristics, education and experience have impacts on how people perceive edible insects. Also factors like peer group pressure and product relevance to the consumer have impacts. If the product is something that respondents do not relate or have no intention to consume, it naturally affects the acceptance of adoption. For instance, some of the respondents commented that the product is irrelevant for them as they do not consume protein bars. Peer acceptance may also have an influence on trying and accepting edible insects. Peers can either nudge and encourage towards edible insects or their negative attitudes, and reactions might reflect negatively on consuming insects.

Many of the respondents did not think about the insect on the packaging when they were selecting their favourites. Some made their selections based on the colour or the other visual elements that was presented on the packaging. Colour liking and colour combinations have an impact on the selection of the packaging and attract attention. Colours also reflect gender difference as pink packaging was more favourable among women, whereas black packaging with masculine graphic design attracted more men.

LIMITATIONS OF THE STUDY

This thesis is conducted within the limitations of Creative Sustainability programme's master's thesis requirements at Aalto University. The literature review consists of relevant, yet limited research about edible insects and marketing. The study discusses edible insects broadly and excludes perception differences among various insect species. This is an objective study and the results are freely available for anyone.

The test group participated in the study by their free will. The age range of the test group was between 15 to 65 years, excluding children and elderly people, due to the fact that the test was conducted in a location close to offices

and university. The fact that the location of the packaging test was close to a lunch restaurant next to office buildings, helped to gather quickly relatively large test group. The second location close to student cafeteria made it easy to reach informants of certain age that was lacking from the first test session. Socio-economic background, was not given high importance in this study, only educational background was required. The study concentrated on the perceptions of insect images on packaging, not profiling possible target audience. The survey did not include respondents' psychographic information or further demographic details about their personal life, since the aim was to gather intuitive comments. Long survey including respondents' personal details would likely have repelled some of the prospective informants.

6.5. FINAL THOUGHTS

As edible insects are gradually transforming into consumer products, it is crucial to understand which kind of packaging they ought to be packed. Considering the results of this thesis: maybe stereotypes reflect the truth, at least for some – women like pink more than men and men like masculine looking packaging. However, not all of the respondents reported this and many may disagree. Yet, it is interesting to think about in which direction packaging design is going. In the end it is about making attractive packaging design that sells the product and if one can increase it by targeting products for females and males separately, this may be the prospective future. Some products such as toiletries have headed into this direction already.

As for insect packaging, according to this research, the following elements should be taken into account: Insects are alien for Western people and we are not used to watching them closely, therefore it might be wise to show insects from some distance and make it natural by placing them among other ingredients. Some respondents noted that insects visualised and showed from a close distance may make the product look like pesticide. The difficulty is that edible insects should not look like pests but as one of the edible ingredients. One way is to utilise beautiful images of insects in an abstract way that resemble food as little as possible but still shows visually that the product contains insect protein. Package number 10 is a great example of this kind of visual problem solving. The other idea is to use fictional-looking insects that frame the consumers' thoughts further away from the protein origin.

Colours had an impact on the results as some of the respondents made their selection according to their preferred colour. As mentioned before, yellow and red are the colours that attract attention and this can be utilised in edible insect protein packaging in order to highlight the product or brand, depending on whether the brand purpose is to shout or stay quiet in the supermarket. Also, if the intention is to neutralise edible insects, it would be wise to use some other colour that is less attention-seeking. Despite the fact that colours have culture-specific meanings, the way they are used in conjunction with other

design elements is more important than what cultural meanings they have. For example, black is often the colour of premium products, and with the right kind of design it can be used even for dairy products. Insect protein bars do not have normative colour coding and therefore all kinds of colours and designs are accepted, which creates an abundant playground for designers. This is both a fun and challenging task to fulfill.

The amount of insect to show in the packaging should still be carefully considered, depending on whom the product is targeted at. Some of the respondents wanted to see the insect image on the packaging, whereas some noted that this would repel them from buying insect protein food. When targeting mainstream, early majority or late majority (Rogers 2003), the packaging should show insects as little as possible. For example, gelatine that is derived from pork skins, pork and cattle bones, or split cattle hides can be disgusting for many, but exists in most gummy candy, gelatine desserts, marshmallows and in some ice creams and yogurts (Peta 2016). Yet, it is not shown visually in the packaging. Insects, and their by-products such as cochineal and shellac, are used already in our food production as food additives, but people are generally not aware of their origin. Depending on the possible customer segment, showing insects can actually be one of the accelerating factors when launching the first insect products. Later on, they can be part of our food in a hidden way, in order to reach the masses.

The results of this research are not absolute, they need to be interpreted with cultural, designer and business sense. In comparison to other consumer behaviour research, the biggest insights from this research may be the plentiful ways to cope with a design task. An image of an insect can be interpreted in many ways, therefore it is not justified to argue that insects should not be visible in the packaging. Personally, I think showing an insect is an asset when combined with decent taste and graphic design skills. Designers are clever enough to find a way to show insects on consumer packaging to suit our Western perception. This can be done in such a subtle way that we might not even notice it, but wonder in amazement at that beautiful image.



BIBLIOGRAPHY

1. [Bibliography](#)
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95. [Bibliography](#)
96. [Bibliography](#)
97. [Bibliography](#)
98. [Bibliography](#)
99. [Bibliography](#)
100. [Bibliography](#)

BIBLIOGRAPHY

AIGA San Francisco, An interview with John Silva The DuPuis Group, retrieved at http://aigasf.org/community/articles/an_interview_with_john_silva_the_dupuis_group (accessed 9.6.2016)

Baker, Melissa A., Jungyoung Tiffany Shin, and Young Wook Kim., 2016, An Exploration and Investigation of Edible Insect Consumption: The Impacts of Image and Description on Risk Perceptions and Purchase Intent, *Psychology & Marketing* 33, no. 2, 94–112. doi:10.1002/mar.20847

Bloch, P.H., Brunel, F.F. and Arnold, T.J., 2003, Individual differences in the centrality of visual product aesthetics: concepts and measurement, *Journal of Consumer Research*, Vol. 29 No. 4, pp. 551-65

Dicke, Marcel. Why Not Eat Insects? Filmed (December 1, 2010). YouTube video, 16:34 Posted (April 10, 2016) http://www.ted.com/talks/marcel_dicke_why_not_eat_insects?language=en#t-554562

DuPuis, Steven and John Silva., 2008, *Package Design Workbook: The Art and Science of Successful Packaging*. United States: Rockport Publishers

Evans, M., Jamal, A. & Foxall, G. 2006. *Consumer Behaviour*. John Wiley & Sons, Ltd. Chichester, West Sussex

Evira, *Insects as Food*, May 7, 2016. Accessed June 4, 2016. <https://www.evira.fi/en/foodstuff/manufacture-and-sales/common-requirements-for-composition/novel-foods/insects-as-food/>

FAO. 2009a. *How to feed the world in 2050*. Paper presented at the High Level Expert Forum, Rome, Italy, 12–13 October. 2009 (available at www.fao.org/fileadmin/templates/wsfs/docs/expert_paper/How_to_Feed_the_World_in_2050.pdf).

Invenire Marketing Intelligence, 2015, *Business Opportunities within edible insects*. 1-41

Heath, P., Houston-Price, C., & Kennedy, O. B., 2011, Increasing food familiarity without the tears. A role for visual exposure? *Appetite*, 57, 832–838.

Journal of Marketing 2009; 73(5): 19–29., *Supermarketfacts*, Retrieved at <http://www.fmi.org/research-resources/supermarket-facts> (accessed 1.4.2016)

Kauppinen-Räsänen, Hannele and Harri T. Luomala., 2010, Exploring Consumers' Product-specific Colour Meanings. *Qualitative Market Research: An International Journal* 13, no. 3, 287–308. doi:10.1108/13522751011053644

Klayman, Ben., 2016, Edible Bug Industry Hopes Crickets and Kin Are the Next Sushi. Accessed August 5, 2016., Retrieved at <http://www.reuters.com/article/us-usa-ediblebugs-idUSKCN0Y11B4>

Looy, H., Dunkel, F. V., & Wood, J. R., 2014, How then shall we eat? Insect-eating attitudes and sustainable foodways. *Agriculture and Human Values*, 31, pp. 131-141.

Menzel, P., & D'Aluisio, F., 1998, *Man Eating Bugs: The Art and Science of Eating Insects*. Berkeley, CA: Ten Speed Press.

Mlcek, J., Rop, O., Borkovcova, M., and Bednarova, M., 2014, A Comprehensible Look at the Possibilities of Edible Insects as Food in Europe - a Review. *Polish Journal of Food and Nutrition Science*. 64 (3), 147-157.

New Nutrition Business 1–18, 2014, Commercialising Edible Insects: How to Market the Impossible.

Paivio, A., 1971, *Imagery and verbal processes*, New York: Holt, Rinehart, and Winston.

Paivio, A., 1986, *Mental representations: A dual coding approach*, Oxford, England: Oxford University Press.

Peta, 2016, What is gelatin made of? Accessed August 25, 2016. Retrieved at: <http://www.peta.org/about-peta/faq/what-is-gelatin-made-of/>

Pilditch, James., 1961, *The Silent Salesman*. Beekman Pub

Pratginestos, Juan., 2008, *Climate Change in the Amazon*. Accessed July 5, 2016. Retrieved at: http://wwf.panda.org/what_we_do/where_we_work/amazon/amazon_threats/climate_change_amazon/.

Rogers, Everett M. 2003, *Diffusion of Innovations*. 5th ed. New York: Free Press

Rozin, Paul; Haidt, Jonathan; McCauley, Clark R. Lewis, Michael (Ed); Haviland-Jones, Jeannette M. (Ed); Barrett, Lisa Feldman (Ed)., 2008, *Handbook of emotions*, 3rd ed., (pp. 757-776). New York, NY, US: Guilford Press, xvi, 848 pp.

Shelomi, M., 2015, *Why We Still Don't Eat Insects: Assessing Entomophagy Promotion Through a Diffusion of Innovations Framework*

Tuormaa, L., 2013, *Pakkausvariaatioiden vaikutus kuluttajien brändiassosiaatioihin – Case: Fazerin Geisha-tuotteet* (Master's thesis)

Underwood, R.L., 2003, The communicative power of product packaging: creating brand identity via lived and mediated experience, *Journal of Marketing Theory and Practice*, Vol. 10 No. 4, pp. 58-68.

van Huis, A., van Itterbeeck, J., Klunder, H., Mertens, E., Halloran, A., Muir, G., and Vantomme, P., 2013, Edible insects: Future Prospects for Food and Feed Security. *FAO Forestry Paper*. Rome: UNFAO. <http://www.fao.org/docrep/018/i3253e/i3253e.pdf>

White, Madeleine., 2012, Meet the Man Behind the California Roll. *The Globe and Mail*. October 23, 2012. (Accessed August 5, 2016.)<http://www.theglobeandmail.com/life/food-and-wine/food-trends/meet-the-man-behind-the-california-roll/article4631256/>.

IMAGES

Image 1. <http://abugsalad.netsons.org>

Image 2. <http://bugvivant.com/recipe/chocolate-cremeux-toasted-cricket/>

Image 3. <http://www.gizmodo.com.au/2013/09/why-how-and-where-you-should-start-eating-bugs/>

Image 4. <http://time.com/3830167/eating-bugs-insects-recipes/>

Image 5. <http://nordicbynatureberlin.com/how-scandinavia-is-killing-your-fast-food/> Photo credit: Jan Kapitän / Munchies

Image 6. Diffusion of Innovation Adopter Categories (Rogers, 2003). Redrawn.

Image 7-11. Invenire Market Intelligence. The Model of the Diffusion of Edible Insect. 2015

Image 12. California roll. <http://www.justonecookbook.com/california-roll/>

Image 13. https://www.amazon.com/gp/product/B00U9WA70M/ref=s9_acsd_hps_bw_c_x_8

Image 14. https://www.amazon.com/gp/product/B00K5E9Q7E/ref=s9_dcacsd_bhz_bw_c_x_1

Image 15. K-Supermarket Seinäjoki. Photo credit: Saara-Maria Kauppi

Image 16. Arla Ihana. Photo credit: Kuudes Kerros Design Agency

Image 17. Baker, Melissa A., Jungyoung Tiffany Shin, and Young Wook Kim., 2016, An Exploration and Investigation of Edible Insect Consumption: The Impacts of Image and Description on Risk Perceptions and Purchase Intent, *Psychology & Marketing* 33, no. 2, page 102

Cover images: Istockphoto

8

APPENDIX

APPENDIX 1 - THE DESIGN ASSIGNMENT AND SCHEME OF THE PACKAGING MOCK-UP

Brief 14.3. 2016

- Design protein bar packaging, one ingredient is cricket flour
- The name of the protein bar is Entobar (Entomophagy = insect eating)
- Ingredients of the packaging will be the same with all students
- Students will design variation of protein bars that are going to be tested with a test group
- Students will define target market themselves
- The idea is to make authentic protein bar packaging that will help to grasp the idea of how would an insect product look like
- The size of the packaging is standard
- Students will define the style, use your creativeness ☺
- Packaging should be ready on 4th of April 2016 (first testing in 5.4.) One folded packaging and one printed flat (just in case)
- Two variations:
 - First, emphasis on the insect
 - Second, emphasis on the peanut

Examples of design paths, create more if you like

- Sinful
- Healthiness
- Natural taste
- Safe taste (tested ingredients)
- Humor
- Basic product
- Ethical choice
- Novelty
- For kids
- For adults
- Pure & fresh ingredients

Kuvan voi suunnitella koko koko alueelle, myös saumakohtaan saakka.



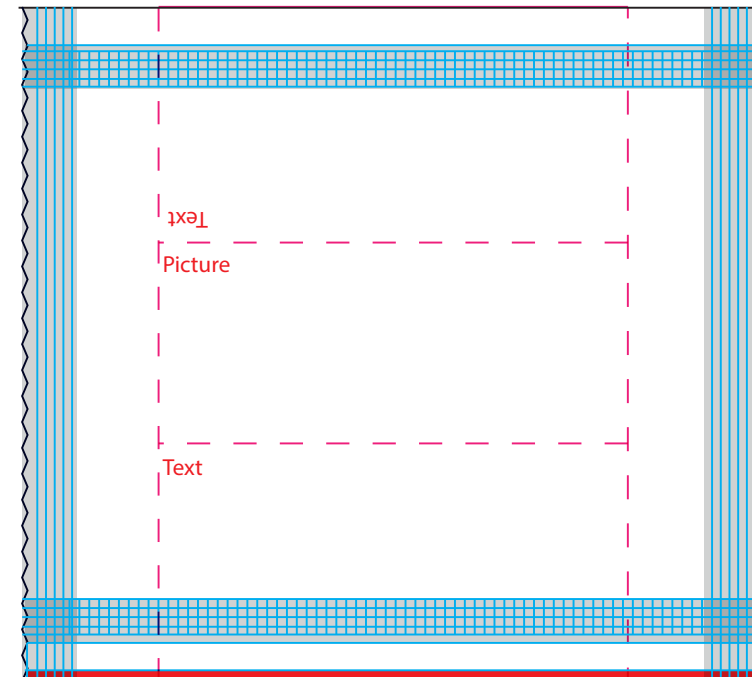
Saumakohta



Tärkeimmät graafiset elementit tälle alueelle



Vain pohjaväri



APPENDIX 2 - SURVEY

KYSELYLOMAKE: Tulevaisuuden hyönteisproteiinipakkaukset

Tämä kysely on osa Saara-Maria Kaupin pro gradu -aineistoa Aalto-yliopiston taiteiden ja suunnittelun laitokselle. Pakkauskonseptit on tehty yhteistyössä Lahden Muotoiluinstituutin toisen vuosikurssin opiskelijoiden kanssa. Alla pyydän tarkentavia tietoja valitsemastasi pakkauksesta ja itsestäsi.

1) Valitse 3 houkuttelevinta tuotetta - ympyröi numerot

1 2 3 4 5 6 7 8 9 10 11 12 13 14

2) Valitse niistä vain yksi, jonka ostaisit - ympyröi numero

1 2 3 4 5 6 7 8 9 10 11 12 13 14

3) Miksi ostaisit sen? - Mikä pakkauksessa miellytti sinua? Kuvaile.

4) Valitse 3 tuotetta, jotka koet vähiten houkutteleviksi - ympyröi numerot

1 2 3 4 5 6 7 8 9 10 11 12 13 14

5) Valitse niistä vain yksi, jonka jättäisit ostamatta - ympyröi numero

1 2 3 4 5 6 7 8 9 10 11 12 13 14

6) Miksi et ostaisi sitä? - Miksi pakkaus ei miellyttänyt sinua? Kuvaile.

7) Oliko hyönteisen kuvituksella vaikutusta houkuttelevimman tuotteen valintaan? - Perustele

Kyllä ☐ Ei ☐

8) Oliko hyönteisen kuvituksella vaikutusta vähiten houkuttelevan tuotteen valintaan? - Perustele

Kyllä ☐ Ei ☐

9) Mitä mielikuvia tai tunteita hyönteisen kuvitus herätti pakkauksissa?

TAUSTATIEDOT:

Ikä: 0-14 15-24 25-34 35-44 45-54 55-64 65-74 75-

Sukupuoli: nainen ☐ mies ☐

Perusaste keskiaste / alin korkea-aste alempi / ylempi korkeakoulu/tutkijakoulutusaste
Peruskoulu ylioppilas / ammatillinentutkinto AMK / maisteritutkinto / tutkijakoulutus

☐
☐
☐

Kiitos osallistumisestasi!

APPENDIX 3 - ORIGINAL PACKAGING COMMENTS

Positive comments above the line and negative under. Red female respondent, blue male.

Selkeä, tyylikäs, pelkistetty, vastaa nyt valitsevaa graafista suunnittelua eli sopii ajan henkeen N, 45-54



Simppele ja tyylikäs. N, 45-54



Nykymuodin mukainen "flat"-design. Selkeästi kertoo mistä on kyse. M, 35-44



Yksinkertainen, luonnonmukainen N 25-34



Nykyaikainen, nuorekas tyyli joka houkuttelee. N 25-34



Yksinkertainen, ekologisen oloinen, luonnontuotehenkeä :) N 25-34



Yksinkertaisuus M 15-24



Clean and simple. M 15-24



Simppele, neutraali väritys. N 15-24



Selkeä, laadukas ja houkutteleva. Ei lupaili liikoja. M 15-24



Näyttää suklaiselta koska ruskea ulkokuori. N, 15-24



Selkeä N, 15-24



Tylsä, N 15-24



Pakkaus on mitäänsanomaton N, 15-24



Pakkaus ei näytä samalta kuin tuotteen sisältö M, 35-44



Tylsä, vanhahtava ja aikaansa elänyt M, 25-34



Plisu. M, 45-54



Se vain tuntuu houkuttelevimmalta
N 25-34 ○○

Raikas ulkonäkö, joka vähän
avaa mitä tuote sisältää. N
35-44 ○○

Luomun näköinen pakkaus
M 35-44 ○○

Luonnollisen "terveellisen"
näköinen. Positiivisia mielikuvia
herättävä väritys. N 24-34 ○○



En pidä sekalaisesta väriyhdistelmästä. Pienet
kuvat näyttävät jotenkin ällöttävämmiltä,
vaikka kuvina näyttävät hyvin mitä pakkaus
sisältää. N, 15-24 ○○

Tylsä, perussettiä N, 25-34 ○○

Liian naisellinen, M 15-24 ♀

Selkeä, yksinkertainen M 25-34 ○○

Yksinkertainen pakkaus, ei muistuta liikaa
alkuperästä. Toisaalta pakkaus vähän tylsä,
muistuttaa ketjukahviloiden tuotteita.
Pakkaussena pidin eniten 8. N 35-44 ○○
(Vastajan kommentti epäselvä, mille tuotteelle
kohdistettu)

Ulkonäkö selkeä 45-54 ○○

Pakkaus on tylsä ja vanhan
näköinen, eikä siitä vilkaisulla
selviä mikä se on. N 15-24 ○○

This package looks too simple,
there is nothing special compared
to the others. M 15-24 ○○

Liian tumma ja pelkistetty. Musta
väri ei houkuttele. M 25-34 ○○

Tylsä pakkaus -> ei kiinnitä huomiota M
35-44 ○○

Tosi "vaisu" M 45-54 ○○

Tylsä. "Ei-mitään-sanova" M 15-24
○○

Näyttää saippualta N 35-44

Tosi tylsän näköinen kaikin puolin
M 15-24 ○○



Miellyttävä ulkoasu M 15-24 ○○	Ulkonäön perusteella, värit ja teksti N 25-34 ○○	Raikas ja jotenkin maukkaan näköinen. M 35-44 ○○ ☞
	Pakkaus on houkutteleva. Ei hyönteisen kuvaa. M 25-34 ○○ ☞	Hieno pakkauksen ulkoasu, värit, kuvio N 35-44 ○○
Pakkaus ei kerro mistä tuotteesta on kyse. N 15-24 ☞	Sekava paketti, mielenkiinto katoaa jos liian sekava. Tuoteotsikko pieni, jää heikosti mieleen. M 35-44 ○○	"Koria" N 55-64 ○○
Jotenkin vain liian räikeä. N 15-24 ○○	Näyttää joltain tarrasysteemiltä, ei liity svötävään N 35-44 ○○ ☞	Ruma. Ei kuvaa tuotetta. N 45-54 ○○ ☞
Häiritsevän värinen. M 25- 34 ○○		Tylsä paketti, ei vaikutu ruokapaketilta N 45-54 ○○ ☞
		Sekava, teksti ja kuosi sekava, pikseleitä liikaa M 55-64 ○○
		Ulkonäkö ei houkuta 45-54 ○○

Näyttää houkuttelevalta ja tulee mielikuva että tuote on hyvän makuinen N 25-34 ☞	Näyttää hunajaa sisältävältä N 35-44 ☞	Värimaailma miellyttää, ilmava yleisilme, skarppi layout, mutta ei liian N 45-54 ○○
Houkutteleva pakkaus M 25-34 ○○	Näyttää siltä miltä pitäisi, sopivan neutraali. M 35-44 ○○	Ei näy hyönteiskuvia N 45-54 ☞
Tuore, luonnollinen ja vetovoimainen M 25-34 ○○ ☞	Miellyttävän näköinen M 35-44 ○○	Ei assosioidu liikaa hyönteiseen. N 45-54 ☞
Pakkaus ei suoranaisesti viittaa hyönteisiin. N 25-34		Selkeä, luotettava M 45-54 ○○
Yksinkertaisuus. Terveellisyyden korostaminen samalla. N 25-34 ○○ ☞		Houkutteleva 45-54 ○○
Oli niin hieno pakkaus M 15-24 ○○		

Aika mitäänsanomaton ulkonäkö N 45-
54 ○○

Kirkkaat värit, kontrasti,
yksinkertainen. N 15-24 ○○

Selkeät tekstit ja kuva - ei ylimääräistä
"säliää" N 25-34 ○○

Kiva pakkaus. Ei ymmärrä että on kyse
hyönteisistä. M 35-44 ○○



Graafinen ja halpa. Muistuttaa
pesuainetta. N 15-24 ○○

Keltainen hailee pakkaus.
M 45-54 ○○

Aneeminen N 55-64 ○○

Värit on kivat, kokkaaminen
myös. M 25-34 ○○

Pakkaus epäselvä, en tajua kuvan merkitystä. N 15-24 ○○

Nainen näyttää, että sitä oksettaa. N 15-24 ○○

Nainen kuvassa ei ole onnellinen. M 15-24 ○○

Looks like a lolipop. M 15-24

Negatiivinen ilme ei houkuttele ostamista edes
huumorimelessä N 25-34 ○○

Negatiivinen kuva N 25-34 ○○

Naamalla oleva ilme ei miellytä. M 25-34 ○○

Looks like an ice cream packaging, I want to see
what is inside at first sight. M 25-34

Surkea naama. M 25-34 ○○

Tyyppi ei ole iloinen. M 35-44 ○○

Kivat värit, hauska ulkoasu M 25-34 ○○

Pakkaus N 25-34 ○○



Värit iskiivät. En etsinyt informaatiota
ensisijaisesti. N 45-54 ○○

Naama irvessä valmiiksi N 45-54 ○○

Näyttää jäätelöpuikolta. Tyttö irvistelee. N 45-54

Negatiivinen kuva - ei houkuttele kokeilemaan. N 45-54 ○○

Ulkoasu ei millään muotoa kuulu joukkoon N 45-54 ○○

Uusavuttomille M 45-54 ○○

Negatiivinen ilme ei houkuttele ostamista edes
huumorimelessä M 45-54 ○○

Joku lapsikuvio ei houkuttele M 55-54 ○○

Negatiivinen pakkauskuvitus -> tulee mieleen

että tuotteessa on jotain vikaa. Huomio kiinnittyi
ihmishahmoon. M 35-44 ○○

Sekava ja amatöörimäinen kääre. Edes piirretty hahmo
ei ole tyytyväinen. M 35-44 ○○

Pakkauksesta tulee mieleen salmiakkinen tai lakritsinen maku. Pakkaus on yksinkertaisen näköinen. N 15-24 ☹️

Kääre tarpeeksi yksinkertainen, rock-henkisyys, logo oli hieno kokonaisuus M 25-34 ☹️

Tyylikäs tumma M 15-24 ☹️

Yksinkertainen mutta erottuu silti joukosta. Pakkauksesta käy myös ilmi että kyseessä on hyönteisjauhoa sisältävä tuote. M 15-24 ☹️

Tyylikäs ulkoasu. Yksinkertainen mutta näyttävä. M 25-34 ☹️

Selkeä pakkaus, josta käy sisältö selkeästi esille. N 35-44 ☹️

Yksinkertainen design vetoaa M 35-44 ☹️

Hieno pakkauksen ulkoasu, värit, kuvio N 35-44 ☹️

Räyhä N 35-44 ☹️



Liian synkkä ja miehinen. Ei näviä terveelliseltä. N 15-24 ☹️

Dark reflects psychology -> negative M 15-24 ☹️

Cricket image. I don't like insects to have anything to do with food. Dark colour: It would be likable if dark and shine but this colour not nice. W 15-24 ☹️

Jotenkin ei yhdisty ruokaan kuvitus ja tyyli liian extreme, ei helposti lähestyttävä, jyrkkä. N 25-34 ☹️

Se on jotenkin "uhkaavan" näköinen, aika heavy. N 25-34 ☹️

Näyttää joltain myrkylliseltä. N 35-44 ☹️

Kuoleman värinen, epämiellyttävä. M 15-24 ☹️

Epämääräisen näköinen, tulee vaikutelma teollisesta, prosessoidusta tuotteesta. Äkäisen näköinen pakkaus N 25-34 ☹️

Ei mitään designia M 45-54 ☹️

Liian synkkä 45-54 ☹️

Näyttää epäsyötävältä M 55-64 ☹️

Rapean näköinen M 55-64 ☹️

Ulkoasu, väri, visuaalinen ilme M 55-64 ☹️

Se kirjaintyyppi kiinnittää huomion M 55-64 ☹️

Humoristisin. Lähes "goottia". M 45-54 ☹️

Pakkauksen visuaalinen ilme on hyvä. M 45-54 ☹️

Sopivan suklaisen oloinen M 45-54 ☹️

I like peanut -> bars with peanut are likable. Professional design, simple but trustworthy impression. Healthy -> attract people with healthy lifestyle. W 15-24 ☹️

Hyvän näköinen pakkaus M 25-34 ☹️

Se on selkeä, raikas ja siinä on hyvät kontrastit. Informatiivinen ja houkuttelevan näköinen. N 25-34 ☹️

Pähkinät on pääraaka-aine, tämä houkuttelee. Terveysvaikute tulee esiin. Värimaailma matta / luonnonläheinen N 35-44 ☹️

Visuaalisesti kaunis, mutta silti informatiivinen. N 35-44 ☹️

Raikkaat selkeät kuvat ja värit. N 45-54 ☹️

Selkeä etiketti, vihjaa hyvin tuotesisällöstä N 35-44 ☹️



Paketin ulkonäkö ei miellyttä ja antaa tuotteesta sellaisen kuvan ettei se ole minua varten. N 15-24 ☹️

Ruma ja näyttäisi tehdyn sirkoista N 25-34 ☹️

Hyönteinen kuvattu vähiten houkuttelevaksi M 25-34 ☹️

Ei herätä mielenkiintoa tuotetta kohtaan, pakkauksen kuvitus jotenkin liian sekava. N 25-34 ☹️

Näyttää liikaa proteiiniapatukalta. M 25-34 ☹️

Raikas ja selkeä, pähkinän kuva houkuttaa. Hyönteissisältö jää taustalle, mikä on hyvä juttu. N 45-54 ☹️

Moderni, tumma ja selkeä. Tarkemmin katsottuna pakkauksen kuviointi selkeytyy. N 15-24 ○○

Värikkyyys ja logo M 15-24 ○○

Selkeän näköinen M 15-24 ○○

Värimaailma ja siisti pakkaus. Tulee mieleen eniten energiapatukka. M 25-34 ○○

Vakuuttava pakkaus-design M 35-44 ○○

Ulkonäkö M 25-34 ○○

Selkeä ja suht simppele pakkaus M 25-34 ○○

Myyvän näköinen, mielikuva ravintovetoinen M 25-34 ○○

Yleisilme, värit, selkeät nimet, suuret tekstit, erottaa/ löytää helposti M 35-44 ○○

Voimakas ilme. M 45-54 ○○

Antaa jotenkin eksoottisen vaikutelman. Sopii tuotteelle. N 45-54 ○○



Visuaalinen puoli viittaa liikaa fitness-tuotteisiin. Liian sport, keh. N 25-34 ○○

Ikävä ulkoasu, muistuttaa liikaa hyönteistä M 25-34 ○○

Tumma, tyyttävä pakkaus N 45-54 ○○

Selkeä, houkutteleva, hieno, luotettava N 15-24 ○○

Näyttää raikkaalle. Hyönteiset erottuu. Siisti. M 15-24 ○○

Picture describes what the bar is made from -> cricket flour. Black & white works. M 15-24 ○○

Liikaa ötököiden kuvia, ettei tee mieli. N 15-24

Etova kuva, tylsä. M 15-24 ○○

Taiteelliset hyönteiskuvat. Orgaanisen näköinen paperi. ○○

Pakkaus on hauskan erilainen, mutta tyylikäs N 25-34 ○○

Pelkistetty, mutta ei liian tumma. Hyönteisten kuvat plussaa niin tietää mitä ostan. Ei johda harhaan. M 25-34 ○○

Näkee heti mistä on kyse. Tekstit erottuu kauemmaskin. Erittäin muista tuotteista. N 25-34 ○○

Selkeesti nimi, siistin näköinen N 25-34 ○○

Kuvitus, esteettisyys N 25-34 ○○



Ei näytä houkuttelevalta N 25-34 ○○

Väritön, ötökän kuva N 25-34 ○○

Tulee mieleen pilaantunut ruoka, jossa kuhisee kärpäsiä N 35-44

<p>The energy bar really contains cricket and on this package we really see it. M 15-24 SH</p> <p>The image of the insect could be informative but for me it's not attractive and it doesn't increase my willingness to buy it. M 15-24 SH</p> <p>Heinäsiirikka M 15-24 SH</p> <p>Kun näkyy noita hyönteisiä N 15-24 SH</p> <p>Pakkauksen ötökkä epämiellyttävän näköinen. N 15-24 SH</p> <p>Ötökkä on aika iso siinä. N 15-24 SH</p> <p>Ötökkä näyttää omituiselta N 25-34 SH</p> <p>Teksti on huonosti luettava ja sekava. N 25-34 OO</p> <p>Pelottava N 25-34 OO SH</p> <p>Ruma kuva N 25-34 SH</p> <p>Hyönteistorjuntatuote M 25-34 SH</p> <p>Väikutelma aika pelottava M 25-34 OO SH</p> <p>Luo heti mielikuvan hyönteisen syömisestä. Ei houkuttele testaamaan. N 25-34 SH</p>	<p>I can quickly identify what is inside and the style is very simple. M 25-34 OO SH</p> <p>Selkeästi luonnollinen ja ötököitä sisältävä. M 25-34 OO SH</p> <p>Hyönteisen kuva ei miellytä, koska se näyttää vihamieliseltä. Myös väritys on epämiellyttävä jotenkin tynpeä. Ja koko yleisvaikutelma on sekava. N 25-34 OO SH</p> <p>El ole houkutteleva. M 25-34 OO</p> <p>Liian lähellä hyönteiskuva M 25-34 SH</p>	 <p>Hyönteinen ei ole houkutteleva. M 35-44 SH</p> <p>Pakkaus on todella ruma N 35-44 OO</p> <p>Heinäsiirikka hyppii silmille M 35-44 SH</p> <p>Epämiellyttävän näköinen. "herviömäinen ulkonäkö" M 35-44 SH</p> <p>Avaruushirviö N 35-44 SH</p> <p>Ötökkä on vastenmielinen N 35-44 SH</p>	<p>Söpö pakkaus, herkullisen näköinen N 25-34 OO</p> <p>Houkutteleva pakkaus N 25-34 OO</p> <p>Paketin ulkonäkö miellyttää ja luo kuvaa että tuote on hyvä. N 35-44 OO W</p> <p>Pakkaus näyttää houkuttelevalta, kiuskimaiselta. N 35-44 OO W</p> <p>Hempeä väri N 35-44 OO</p>	 <p>Liian naisille suunnattu. M 15-24 W</p>
	<p>Ulkonäön perusteella N 55-64 OO</p> <p>Ekologisen näköinen pakkaus N 55-64 OO</p>	<p>Hyönteisen kuva liian iso, ei houkuttele N SH</p> <p>Ulkonäkö ei houkuta M 55-64 OO</p>	<p>Pelottavan näköinen, ei houkuta koska ötökkä keskeisessä osassa - muistuttaa alkuperästä -pelottava kuva N 45-54 SH</p> <p>Hyönteisen kuva, ällöttää N 45-54 SH</p> <p>Hyönteisen kuva ei houkuttele N 45-54 SH</p> <p>Väri. Geisha-patukan väri muistuttaa. M 55-64 OO</p> <p>Houkutteleva paketti - väri, ei hyönteiskuva N 45-54 OO SH</p> <p>Muistuttaa Geisha-patukkaa M 45-54 OO</p> <p>Näytti houkuttelevimmalta, näytti uudelta, näytti pähkinäiseltä -> onkin muuta - kuva näytti aluksi pähkinäiltä N 45-54 OO SH</p>	<p>Kokonaisuus ei houkuttelevan näköinen N 55-64 OO</p>

Pakkaus kuvaa tuotetta sekä siinä on
kauniit värit. N 15-24

Kauniit värit N 25-34

Pakkaus on houkutteleva ja trendikäs.
Tulee mielikuva uudelta tuotteesta.
N 25-34

It's simple, informative and it looks
good (quality). M 15-24

Väritys miellytti silmää N 45-54

Väritys hyvä, selkeä pakkaus N



100

Näyttää kosteuspyyhepakkauskelta,
ei ruualta. Epäselvä mitä sisällä on.
N 45-54

Teksti hukkuu kuvan sekaan M 25-34

Luotaantyyntävän näköinen. N 35-44

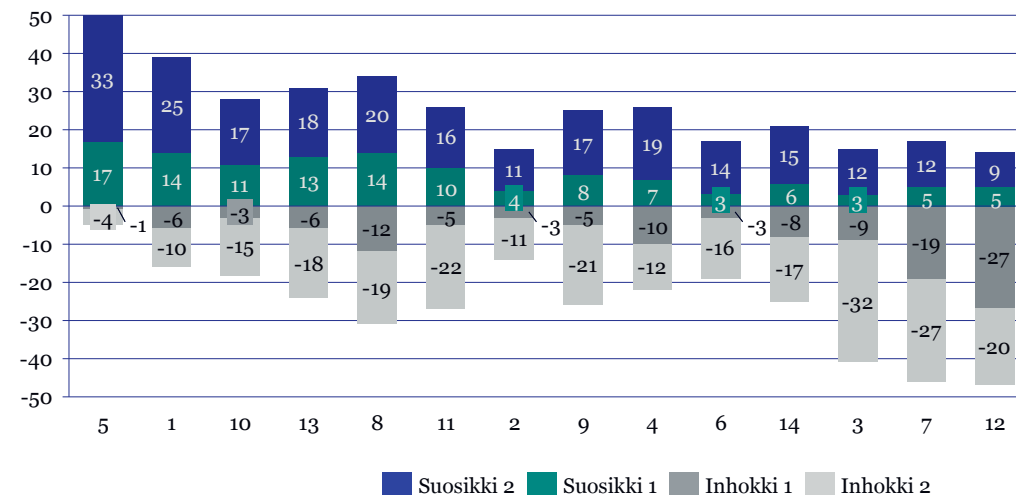
Melko mitäänsanomaton tuote. Entobar
nimi pakkauksessa hyvin epäselvästi.
M 25-34

Koska näissä on ötököitä. Onko näitä tuotteessa?
Hyönteinen itsessään ei houkuttele. N 35-44

APPENDIX 4 - ORIGINAL TABLES OF THE RESULTS

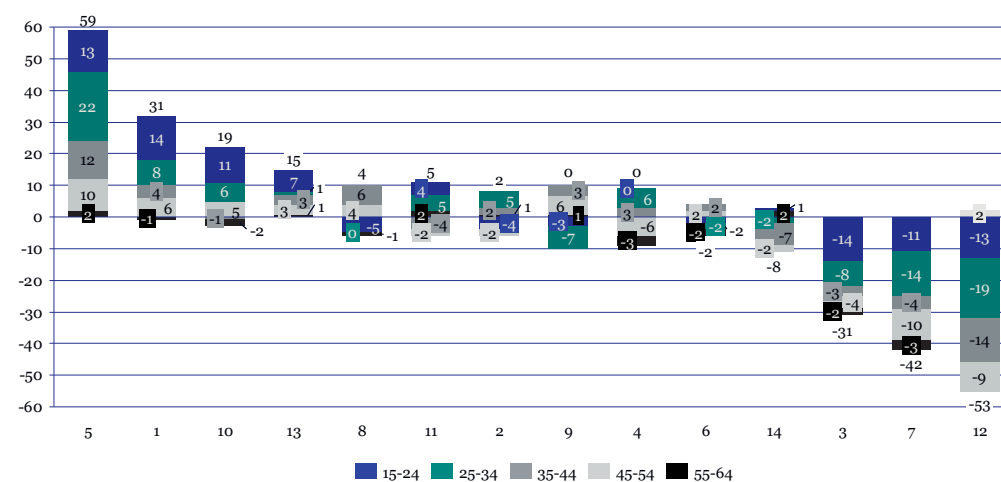
The most and least likable packaging by all respondents

Suosikit ja inhokit, kaikki



The most and least likable packaging by age

“Suosittuuspisteet” iän mukaan

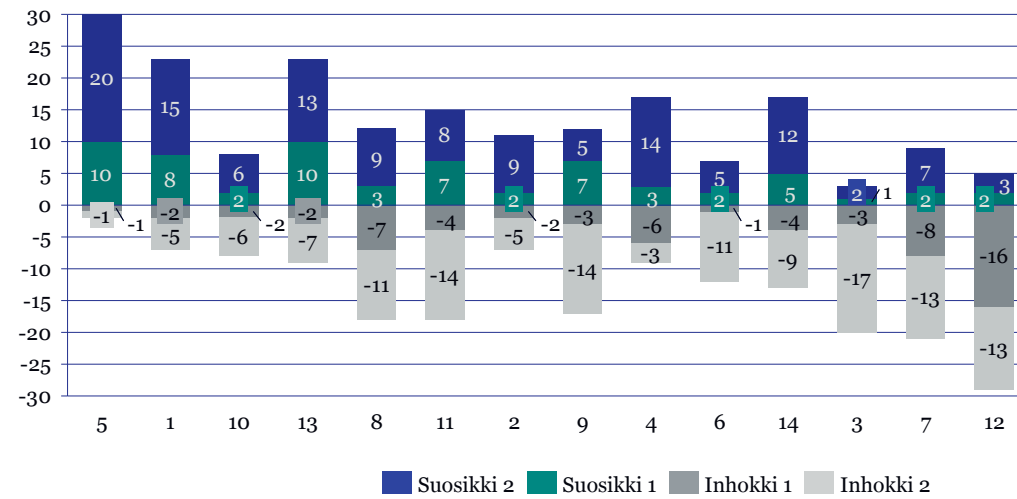


Huom. Suosittuus = ensisijainen suosikki x 2 + toissijaiset suosikki x 2 - ensisijaiset inhokki x 2 - toissijaiset inhokki x 2

101

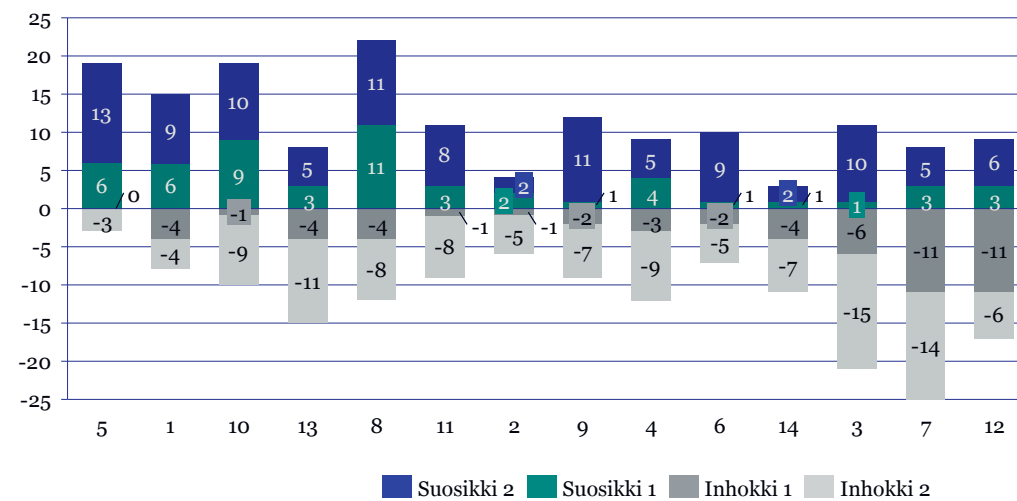
The most and least likable packaging by women

Suosikit ja inhokit, naiset



The most and least likable packaging by men

Suosikit ja inhokit, miehet



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